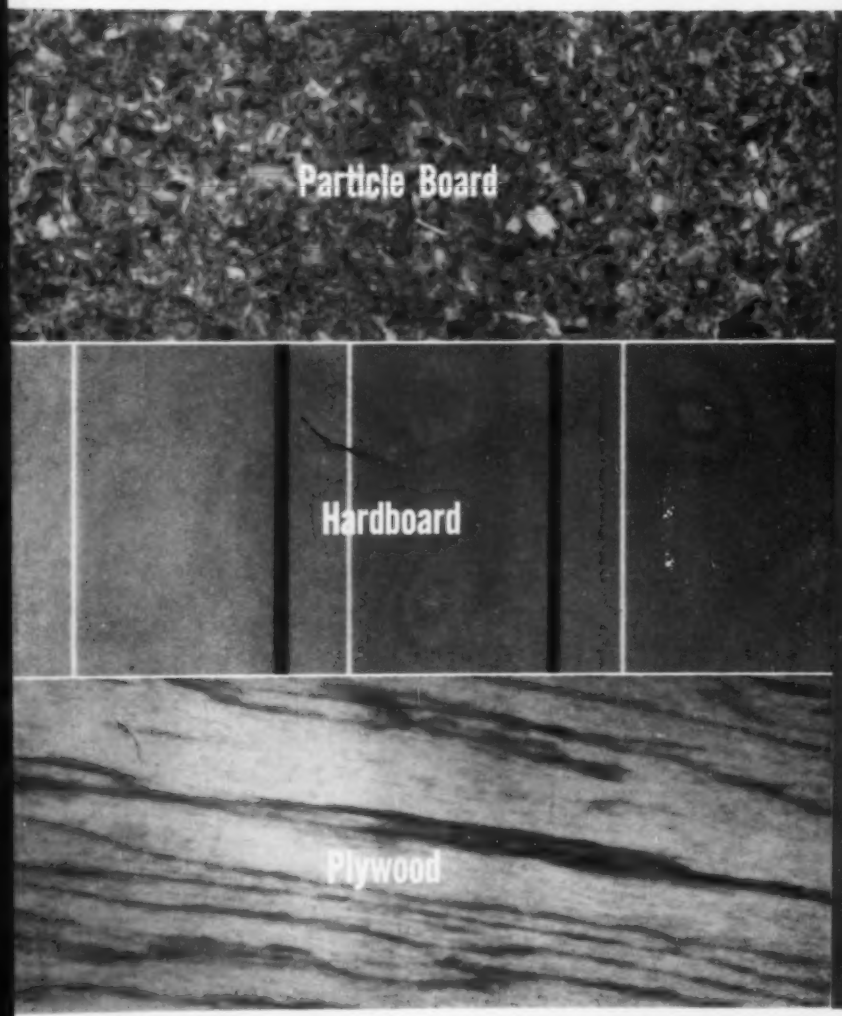
WOOD & WOOD PRODUCTS

DECEMBER, 1960

A Vance Publication

Including

THE WOOD-WORKER and VENEERS AND PLYWOOD



In this issue:

BOARD and PANEL PRODUCTS Progress Report

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- First N.F.P.W. an International Success
- Integrated Planing Mill Boosts Output 55%
- Is Safety Really the Foreman's Job?
- Veneers and Plywood Section Included *
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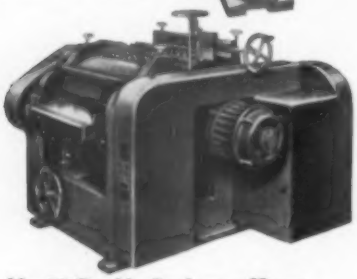

No. 55 Double Surfacer—Heavy duty, fast feed.

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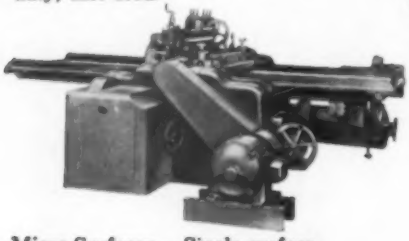
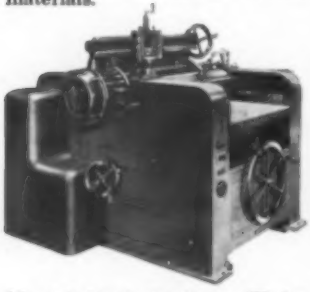


Micro-Surfacer — Single surface machine for planing thin, flexible materials.



No. 4-L Single Surfacer—Wedge adjusted bed, 4 roll.

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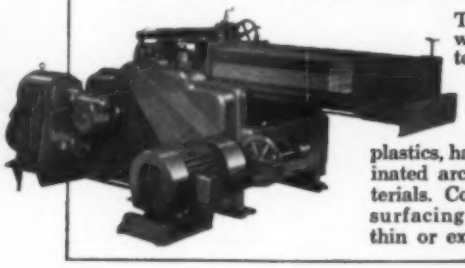

Top Head Single Planer with chain drag hopper feed to four power rolls.

Buss has designed planers for rubber, vinyl, phenolic, acetate, plastics, hardboard, brake lining, laminated arches, and many other materials. Contact us about any special surfacing problems involving very thin or extremely thick materials.

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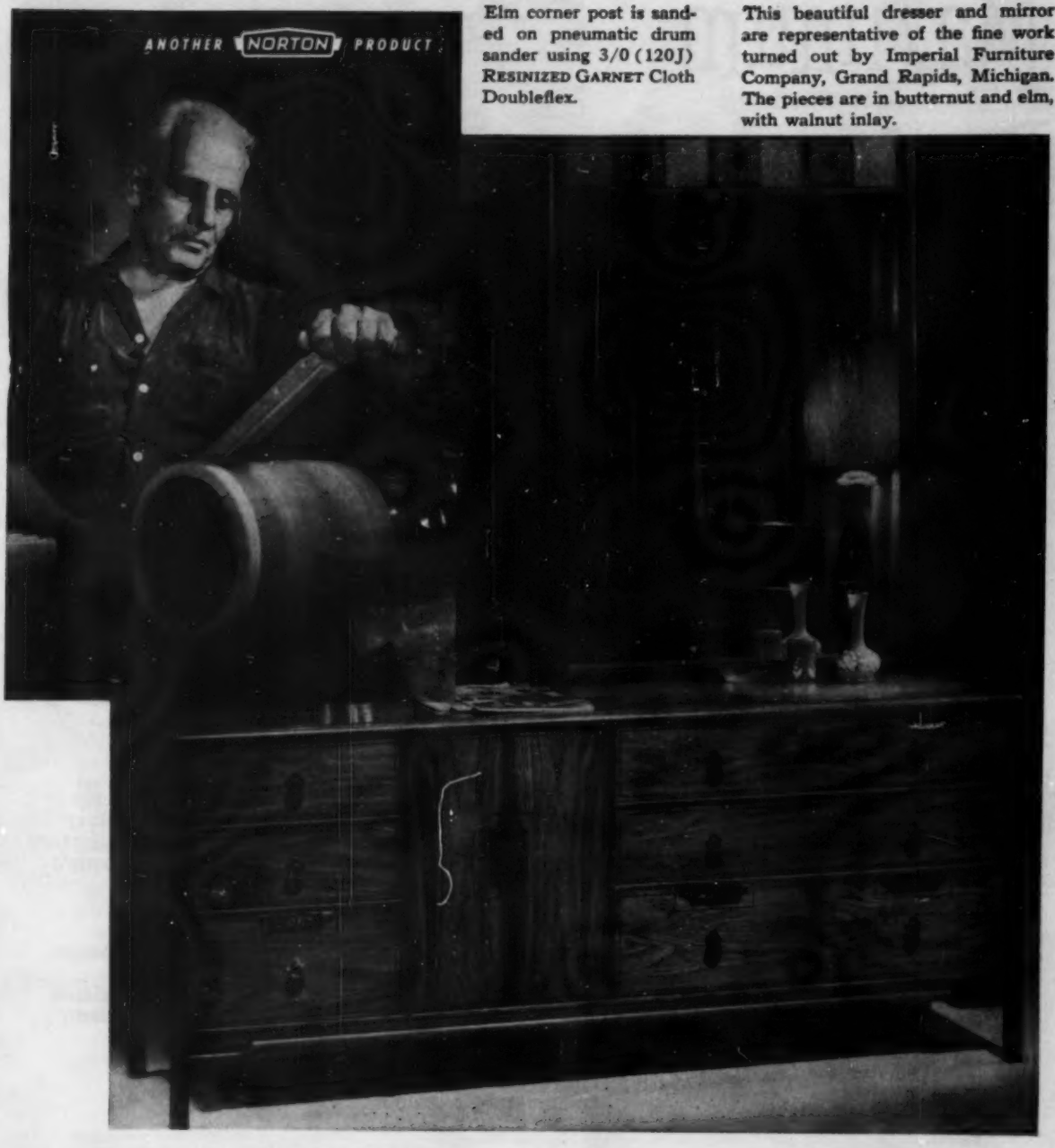
Use Reader Service Coupon on Page 163.



Elm corner post is sanded on pneumatic drum sander using 3/0 (120J) RESINIZED GARNET Cloth Doubleflex.

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WOOD & WOOD PRODUCTS

Including THE WOOD-WORKER and VENEERS & PLYWOOD

DECEMBER, 1960 Vol. 65, No. 12

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		GUIDE TO YOUR SPECIFIC SUBJECT INTERESTS					
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MARKETS / FIRST FOREST PRODUCTS WEEK An International Success	30	X	X	X	X	X	X
MODERNIZATION / Integrated Planing Mill Boosts Output 55%	33	X			X		
SAFETY / Is Safety Really the Foreman's Job?	36	X	X	X	X	X	X
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WOOD & WOOD PRODUCTS

Trends in the NEWS

MARKETS · DEVELOPMENTS · FUTURE

FINGER-JOINTED FRAMING LUMBER GETS FHA O.K.

During National Forest Products Week, finger-jointed framing lumber received official recognition when FHA issued a release on its use as vertical structural members or studs on projects it insures. The FHA release covers the use of 2 x 4 and 2 x 6 lumber as studding up to 10 ft. in length and as headers, floor plates and trimmers. Official Western Pine Assn. grading rules apply for framing lumber, and the 11 western pine region species are included. The association laboratory is to be an authorized testing agency to assure quality control in manufacture. Carl A. Rasmussen, director of the lab, says the agency action should create expanded markets for finger-jointed structural products. This in turn will allow more complete utilization of raw material available at the mills.

BOARD AND PANEL PRODUCTS PROGRESS REPORT

Latest trends and developments in the manufacture and application of hardboard, particle board, softwood and hardwood plywood, plus other new board and panel products, are reported in a Progress Report in this issue of WOOD & WOOD PRODUCTS. New materials and equipment of interest to both the manufacturer and the user are included along with up-to-date reference guides for hardboard, particle board and special plywood products.

"A CASE FOR WOOD"

A new 48-page booklet, "A Case for Wood," has been issued by the Edward Hines Lumber Co., Chicago. As a basic reference on the physical properties and advantages of wood and wood construction, the booklet should be of tremendous value to anyone in the wood products field. It is packed with solidly documented answers to many common objections which uninformed persons often raise against wood. Up to 10 copies are offered free. For larger quantities there is a charge of 20 cents per copy to cover printing costs. Available from Edward Hines Lumber Co., 200 S. Michigan Ave., Chicago 4, Ill.

LUMBER SHIPMENTS, ORDERS TRAIL PRODUCTION

Total lumber shipments were .3% below production during the week ending November 5, according to N.L.M.A. In the same week new orders were 3.7% below production and unfilled orders amounted to 25% of gross stocks. For reporting softwood mills, unfilled orders were equivalent to 14 days' production at the current rate and gross stocks were equivalent to 53 days' output.

GREAT CHANGES PREDICTED FOR FORESTRY

In a speech before the 60th anniversary meeting of the Society of American Foresters, U. S. Forest Service Chief Richard E. McArdle predicted: "The next 60 years will bring far more changes than the past 60." Spectacular break-throughs are expected in forest research, utilization and management in the next few years. McArdle pointed out, however, the urgent necessity for foresters to take early action in stepping up the productivity of forest land; the growing competition for forest land from other uses; the desirability of stepping up multiple-use management of forest lands to produce more timber and to provide more recreation, wildlife, water and grazing; and the need for early national action in getting greater productivity on the 4.5 million small privately owned woodlands that comprise 55% of the nation's commercial forest land.

OCTOBER DOUGLAS FIR LUMBER OUTPUT OFF 13%

The weekly average of West Coast lumber production during October was 142,677,000 bd. ft., or 87.1% of the 1955-59 average, according to the West Coast Lumbermen's Assn. report from Douglas fir region mills. Orders averaged 138,751,000 bd. ft. and shipments 141,890,000 bd. ft. The industry's unfilled order

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FOR 1961

619 NEW MODELS! All engineered with one idea in mind... economy! New "Big Six" engine for 2-tonners plus five Cummins diesels for the new H-Series tractors expand the proven line of Ford engines to 18—with one just right for your job. A wider-than-ever choice of transmissions and axles. And . . . on all 1961 Ford Trucks, each part, except tires and tubes, is now warranted by your dealer against defects in material and workmanship for 12 months or 12,000 miles, whichever occurs first. The warranty does not apply, of course, to normal maintenance service or to the replacement in normal maintenance of parts such as filters, spark plugs and ignition points.

FORD TRUCKS COST LESS

YOUR FORD DEALER'S "CERTIFIED ECONOMY BOOK" PROVES IT FOR SURE!

New! Durable Tandems

Ford's Tandem Axle trucks for '61 are engineered to give you greater flexibility and significant payload advancements. Your choice of 22,000-lb., 28,000-lb., 30,000-lb., 34,000-lb., or 38,000-lb. axle capacity. New, longer wheelbases are available to permit installation of special bodies up to 21 feet long. Aluminum walking beams as well as aluminum wheels and gas tanks are optional for reduced chassis weights.

FORD DIVISION, *Ford Motor Company*

New! "Big Six" Engine

More power for America's savingest 2-ton trucks . . . a big 262-cu. in. Six with the performance of big displacement, the durability of heavy-duty construction, plus the gas economy of 6-cylinder design! Available early 1961. You also get improved riding comfort with new smoother-acting springs and a sturdy truck suspension system that can give up to twice the front tire life of some other makes.

New! H-Series Diesel- or Gas-Powered Tractors

Ford's new H-Series tractors with 28-inch front axle setting and 82-inch BBC are offered in four single-axle and four tandem-axle models with over 500 engine-axle-transmission combinations. Choose from ten industry-accepted engines—five Cummins diesels and five Ford Super Duty V-8's!

New 100,000-mile warranty on Super Duty V-8 gas engines is most liberal in the industry. On 401-, 477- and 534-cu. in. V-8's, Ford Dealers will replace any major engine part (including block, heads, crankshaft, bearings, valves, pistons, rings) found to be defective in materials and workmanship in normal on-highway use. Warranty covers full cost of replacement parts for 100,000 miles or 24 months, whichever occurs first . . . full labor costs for first year or 50,000 miles, sliding percentage scale thereafter.

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GENUINE PARTS
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SERVICE
DIESEL CUMMINS

NATIONWIDE SERVICE . . . *look for this sign at Ford Dealers' across the country, for service on all Ford gas and diesel trucks!*

New! Extra Heavies

Double-channel truck frames and single-channel frames of high-tensile steel for tractor models give proper strength with minimum weight. Wider power train choice, 28-inch front axle setting plus new high-durability cabs and sheet metal mean greater earning power for you.

New! 4-Wheel Drive Pickups

Ford offers the lowest-priced* 4 x 4 with big 8-ft. box. And these models have the traction to go most anywhere . . . road or no road! You can choose either the gas-saving 135-hp Six or the 160-hp V-8 that gives extra power with "six-like" economy.

**Based on a comparison of latest manufacturers' suggested retail delivered prices*

file stood at 434,047,000 bd. ft. at the end of the month and lumber inventory at 1,104,901,000 bd. ft.

SEEK LOW-COST OAK FLOOR ON CONCRETE SYSTEM

An intensive research project aimed at developing a more efficient and more economical method of installing strip oak floors in basementless houses built on concrete slab foundations is announced by the National Oak Flooring Manufacturers' Assn. While for some time builders have employed an FHA-approved system in which strip oak flooring is nailed to wood screeds embedded in mastic on top of the concrete, industry leaders believe a concentrated study may result in a speedier, money-saving procedure without sacrifice of the oak floor's quality and performance.

SEPTEMBER FURNITURE BOOKINGS BELOW PAR

The August-to-September decline in furniture bookings was the greatest in the past 10 years, according to Seidman & Seidman. New orders dropped 10% compared with year-ago figures and were 9% behind August. Total bookings for the first three quarters of 1960 fell 5% short of the corresponding 1959 figure. Shipments and order backlogs followed the trend, off 4% and 17% respectively.

BUILDING INDUSTRY MARKETING INSTITUTE

Purdue University's Division of Adult Education announces the establishment of the Building Industry Marketing Institute, the first complete educational center for the nation's building material merchants and their sales employees. The Institute merges the 10-year dealer training program sponsored by the Indiana and Illinois Building Material Dealers Assn. and the management workshops conducted by Arthur A. Hood under the auspices of the American Lumberman. With Mr. Hood as director, the Institute will start with semi-annual five-week courses, the first to extend from January 9 to February 10, 1961. Enrollment to any one session is limited to 60 persons. For a brochure, write the Institute, Purdue University, Lafayette, Ind.

FACE VENEER SHIPMENTS TRAILING

There was a moderate face veneer inventory increase in September because shipments dipped slightly below the previous month. Production slowed down a bit but still outran deliveries during the month. African mahogany deliveries achieved the year's high point during the month. Output, however, was much lower, veneer producers report. Honduras mahogany shipments, though off the August pace, were still better than average for the year to date. The popularity of American walnut veneer continued unabated with September output and shipments above the average for the first three quarters of the year.

MARKETS OPENING FOR SAWDUST

Sawdust is gaining in its fight for recognition. Thanks to research, it's appearing in a variety of products. Suggested possible uses include: briquettes, wood patching compounds, subflooring, filler for felt, asphalt shingles, etc. Lower grades may be used for container liners, packing material, moulding compound, slab floors, etc.

1961—A GREAT YEAR FOR HOUSING

Housing experts predict that 1961 will be a great year for dollar investments in housing, second only to the all-time high in 1959. The total dollar investment should hit over $19 billion or a minimum of 1,424,000 starts, according to Miles L. Colean, housing expert.

THANKS . . . and Season's Greetings!

To our readers, to our advertisers, to our suppliers, and to our entire staff, we offer sincere thanks as we close this, the most successful year in the history of WOOD & WOOD PRODUCTS, with the largest volume of advertising any single issue of this publication has ever carried.

To all, our very warm wishes for a Merry Christmas and the best of everything in the New Year.—The Editors.

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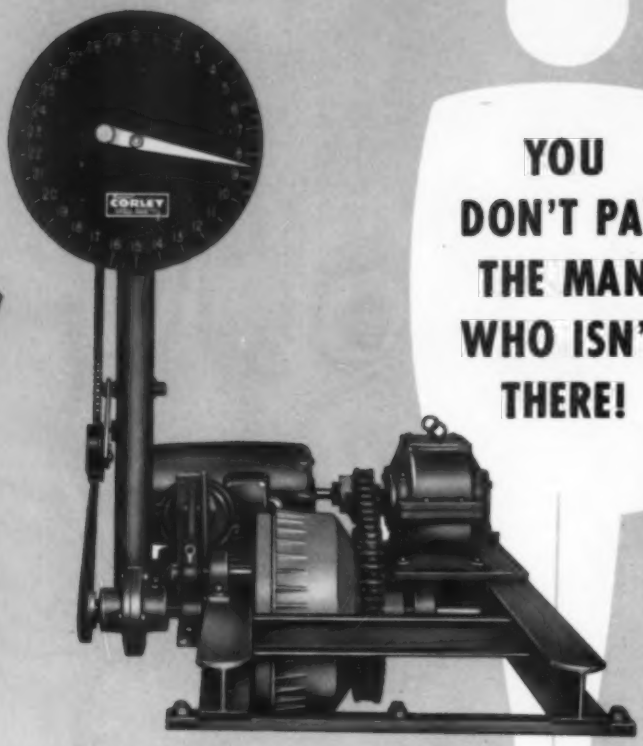
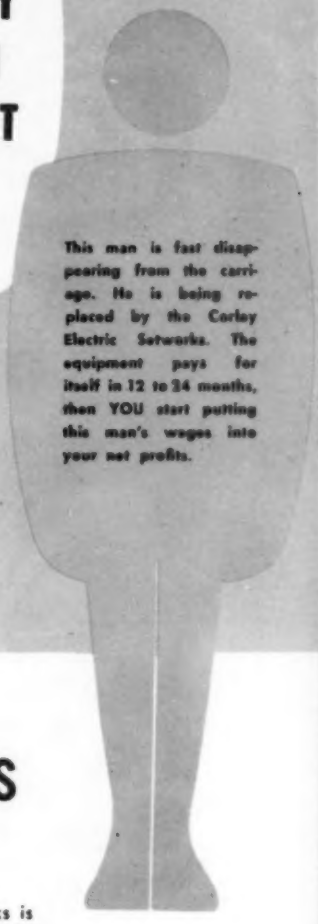


YOU DON'T PAY THE MAN WHO ISN'T THERE!



This man is fast disappearing from the carriage. He is being replaced by the Corley Electric Setworks. The equipment pays for itself in 12 to 24 months, then YOU start putting this man's wages into your net profits.

easy to adjust
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easy to maintain

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In operation. Simple handy push-button controls quickly make an expert of the average sawyer.

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WASHINGTON

News and Trends

Hope in New Congress

RUN-OF-MILL BUSINESSMEN are looking to the next Congress—to get in motion next month—to deliver at least some of the promises made during the election campaign and set forth in the party platform. Sadly, the delivery rate has been very low for a number of years.

Main action is wanted on taxes, with a complete revision on the tax structure not too much to be expected, easing of the depreciation law, and a generally more practical and easier money situation. While credit has been easier in recent months, the smaller business enterprises are wondering what the future holds.

Federal action that would operate to reduce the number of small business failures, progressively increasing this year, is in line. During the first three-quarters of 1960 small business failures, as reported by Dun & Bradstreet, moved up 6.7% over the like months of 1959. Dollar liabilities of the failing concerns climbed by almost 31% in the 1960 period versus the first three-quarters of 1959.

September business failures at 1,269 continued above the 1959 level for the eighth consecutive month, with the current toll of small firms, projected on an annual basis, reaching a post-war record of 65 casualties per 10,000 of business population—the highest failure rate since 1939.

Six Months' SBA Activities

In its 14th semi-annual report the Small Business Administration highlights the following:

Business Loans—Approved 2,091 business loans for $98,887,000 during the first half of 1960, comparing with 1,597 approvals for $69,479,000 in the previous six-month period. However, approvals of $147,300,000 for the first six months of 1959 were recorded.

Investment Companies — During the first half of this year SBA licensed 48 small business investment companies, making a total of 108 licensed with potential resources of $234,765,000 to invest in small concerns.

Joint Set-Asides—While total military contracts of $10,000 or more with small firms decreased from $2,247 million to $1,933 million in the first 11 months of fiscal 1960, compared with the like 1959 period, contracts jointly set-aside for award to small companies for the same periods also decreased from $1,057,000,000 to $974,000,000, a slippage of 7.8%.

Management Courses—SBA and co-operating educational institutions co-sponsored 157 administrative management courses, which were attended by 4,900 small business owners and managers.

More Anti-Trust Program Money

Senators John Sparkman and Hubert H. Humphrey are calling for increased funds for anti-trust work. Mr. Sparkman, chairman of the Senate Small Business Committee, and Mr. Humphrey, chairman of its Retailing, Distribution and Fair Trade Practices Subcommittee, jointly urged the Anti-trust Division of the Department of Justice and the Federal Trade Commission to seek the funds they need for more effective staffing of the two agencies.

"This is the time the agencies submit their fiscal 1962 requests to the Bureau of the Budget," said the two senators, "and we hope they are willing to chart an all-out drive to obtain the appropriations they need to fulfill their critical tasks. The Senate Small Business Committee has repeatedly recommended an expansion of their staffs, and we hope the Budget Bureau's requests for the next fiscal year will reflect the importance of the task facing these agencies." Reportedly, the FTC is asking the Budget Bureau for 50% more funds and 70% more staff.

Loan Program Still Widens

During September the Small Business Administration approved 345 business loans for $17,453,000, up from 316 approvals for $12,787,000 in the same 1959 month. Wood industry concerns continued to get a large share of the loans, with 25 such companies getting approvals for loans of $1,271,000. In the previous month wood industry companies got approvals for 17 loans totaling $1,167,500. September loans ran from $5,000

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Here is top quality lumber at the right price—the kind you can depend on for *finest finished products.* Produced from high-altitude timber in modern mills, PICKERING "Gold Medal" is famous for its fine grain, soft, mellow texture, excellent workability with minimum waste. Kiln-dried. Precision machined. Reliably graded and shipped with care. Ask your "Gold Medal" distributor, or contact us.

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MILLS: Pickering Lbr. Corp. Standard, Calif.
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Don't Buy ½ of a Dust Control System

"Type C" Collector: A new design, evolved from 45 years of experience, is highly efficient and trouble-free.

Tapered Main Piping: note smoothness of joints into main, assuring maximum efficiency, lowest possible power costs.

Plenum Main Piping: permits easy rearrangement of woodworking machines, since suction is equal at any point in Plenum Main.

Without properly designed piping, the *best collector* in the world can't do a good job of removing refuse from the plant. The reverse is true: *good piping* can't make a poor collector function properly.

In a KIRK & BLUM Dust Control System, you get piping and collectors designed specifically for each other *and* for the job to be done. A multitude of money-saving installations illustrate the wisdom of the phrase "For all three . . . design, fabrication and installation . . . call on K&B."

Write today for catalog W, "Dust Collecting Systems for Woodworking Plants," showing further details and representative installations.

THE KIRK & BLUM MFG. CO.
3192 Forrer Street, Cincinnati 9, Ohio

KIRK AND BLUM DUST CONTROL SYSTEMS

to $172,000. The average size of all SBA business loans has been $47,000. The September average in the wood and wood products category was a little over $50,000.

Mergers in Negotiation

Mergers reported under negotiation during the first nine months of this year reached 776, according to a tabulation by the Federal Trade Commission, comparing with 792 during the like period of 1959; 647 in 1958; and 720 in 1957. The FTC report stated: "These recordings are made only for the purpose of determining the trend in the merger movement, and they should not be considered as firm figures on completed mergers."

The merger trend, of course, is of great interest to the small and medium sized concerns, as the usual course is for concerns in these size groups to be merged into larger organizations, with competition repercussions regarded as harmful to small business.

Certificates of Competency

Certificates of Competency issued during August-September totaled 31, reports the Small Business Administration. The contracts covered by these certificates were valued at $2,867,662, and represent a savings to the Government of $154,485. The savings are figured as the difference in cost between the certified low bidder and the next low bidder. In the like two-month period of last year SBA issued 20 certificates on contracts valued at $5,448,659.

Ease in Stock Placement

All stock in the largest small business investment company has been sold with ease, with a large group of underwriters successfully placing the entire issue of stock, amounting to $22,500,000, in Boston Capital Corporation, a small business investment company. The 1,500,000 shares was offered at $15 per share.

Aid for Canadian Concerns

Information reaches Washington that Canadian small companies are being offered an opportunity to increase their efficiency. The Technical Information Services, a Canadian Government agency, is making available at no charge to managers of small firms, about 46,000 prepared answers to questions aimed at promoting increased plant efficiency by as much as 10 to 20%. TIS handled 11,000 inquiries from smaller companies last year.

Towmotor backs up outstanding performance

with Towmotor dependable service

When you purchase Towmotor equipment you can be sure it will never be out of service very long . . . for two very good reasons:

1. Towmotor fork lift trucks are built to last, and built to perform continuously.
2. When needed, you get fast and skillful repair and maintenance service from your local dependable Towmotor representative.

Your Towmotor representative will never let downtime cut into the money you *save* by owning a Towmotor fork lift truck! That's why Towmotor customers keep buying Towmotor equipment. Ask for complete information on Towmotor equipment and Towmotor Preventive Maintenance Service. Write Towmotor Corporation, Cleveland 10, Ohio.

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THE ONE-MAN GANG

FORK LIFT TRUCKS, CARRIERS AND TRACTORS SINCE 1919

*Gerlinger Carrier Co. is a subsidiary of Towmotor Corporation

Get Longer Shaper Collar Life with WES-TURN Easy Cleaning features

Only WES-TURN ball bearing Shaper Collars can be disassembled, cleaned, oiled and re-assembled; all without the aid of tools in less than 5 minutes. This exclusive feature means you get *longer life, easier operation* and *greatly increased production.*

All WES-TURN ball bearing Shaper Collars are made from alloy steel, heat treated and ground with precision accuracy to extremely close tolerances and fine finishes. Surface hardness eliminates slot bruises.

ORDER TODAY! MONEY BACK GUARANTEE!

2" Dia. — ½", ⅝" or ¾" bore	$45.00 set
2½" Dia. — ¾" or 1" bore	$45.00 set
3" Dia. — ¾", 1", 1⅛" or 1¼" bore	$37.50 set
3½" Dia. — 1", 1⅛" or 1¼" bore	$47.50 set
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NICHOLAS & PARKS MACHINERY CO.
P. O. BOX 5729, DALLAS 22, TEXAS

PLEASE SEND_____SETS WES-TURN SHAPER COLLARS ON YOUR MONEY BACK GUARANTEE.

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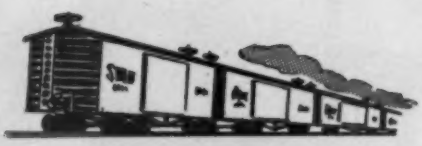
MARKETS

Lumber and Plywood



By Robert L. Thomas

EARLY NOVEMBER saw the production end of the lumber industry fighting hard to hold the line on prices and with a certain measure of success. All appearances indicate that hopes of a turnabout of the sluggish market must await the coming of a new year—very possibly its second half.

Failure of home building to pick up and give the entire economy a shot in the arm, as well as quickly lifting the demand for lumber, had a depressing psychological effect as moves toward easier credit failed in their desired effect. The industry's answer was stiffened resistance to price cutting and more widespread curtailment of production.

To a certain extent, the program worked. The Douglas fir index leveled off noticeably in October after a steady slide which had continued through the previous month. While some buyer resistance to mill quotes was encountered, low and broken inventories and determination on the part of producers kept the levels firm with some dimension sales at higher price levels.

Western pine mills also saw a stiffening trend in boards although the overall price index continued its downward trend with a floor not yet established.

A trend toward lower prices continued in the Southern pine region although here, too, reports indicate growing determination to hold the line. And, generally, orders and shipments continued below production levels although the gap is narrowing.

Cheering the Douglas fir region was greater strength in the cargo section with an upturn in prices. This trend was offset in its first two weeks, however, by a sag in rail shipments.

Sanded plywood held the line at the $68 base for ¼ in. AD at the cost of stiff curtailment of production by many mills. The initial 20% cutback had extended to 40 or even 45% by early November at a number of the larger plants. New and lower lists appeared on sheathing, however, in a season in which sales and inventories are normally low.

• • •

A warning that the plywood industry will have to live with a slower rate of growth than it has enjoyed in the past, and that production capacity may already be too high for the demand during the foreseeable future, was issued by a Puget Sound banker who has been close to the industry for many years.

In an open letter distributed through the National Plywood Distributors Assn., Reno Odlin, president, Puget Sound National Bank, Tacoma, Wash., pointed out that the housing market has been plywood's primary source of growth, with its average use per unit increasing from 400 to 500 ft. 10 years ago to 2,400 to 2,600 ft. per home at present. He added, "... it is going to be a lot harder to move up from 2,500 ft. than it was to get from 500 ft. to present levels of consumption."

Calling for a more orderly marketing program as well as more considered production, Odlin forecast an excess of capacity of as much as 1.5 billion ft. overhanging the market by the end of this year.

• • •

Consensus on the overall economic picture is swinging toward hopes of a general upturn next spring, or later. More than 300 economists polled by F. W. Dodge Corp. were "almost unanimous" in foreseeing improvement in the second half of 1961.

Steel consumption for the coming year is expected to remain close to the 1960 total, with that industry pinning its primary hopes on the prospects of the construction industry for next year being better than for most other lines of business.

It is road and heavy construction that is of most interest to steel, however. The housing picture, with its influence on the lumber market, remains obscure, clouded by failure of the moves toward easier credit to have an immediate observable effect.

Housing activity in September was down 17% from the previous month. One factor, hard to measure, is the extent to which uneasiness over the general trend of the economy may have offset the easing of money.

Your classified ads should reach us before the 12th of the month preceding issue!

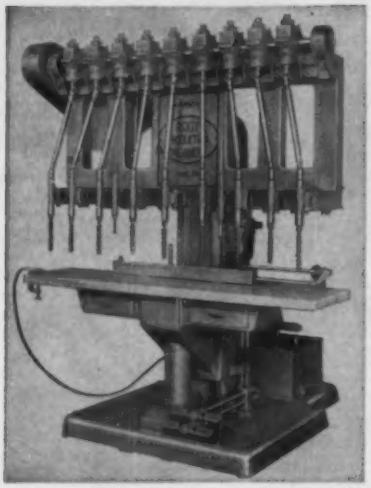
ROOT

BORING MACHINES

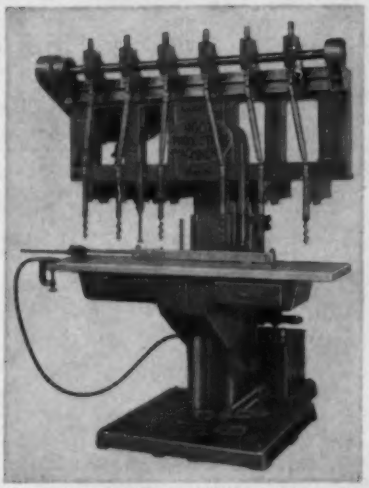
. . . widely used for all types of wood boring operations, also available, with adaptations, for drilling plastics, composition materials and light metals—proved through the years to be rugged, efficient and dependable for high productivity with minimum maintenance. Shown here are only a few of our complete line of Borers. Send us dimensioned sketches or actual samples of boring jobs for recommendations—no obligation.

Built by Boring Machinery Specialists

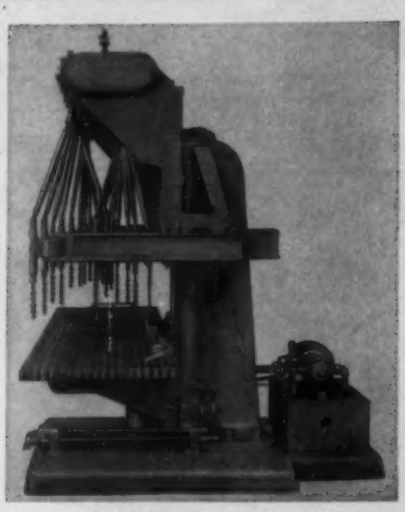
Featuring . . . HYDRAULIC FEEDS



Style CH MULTIPLE BORER—General purpose borer with reserve power for heavy boring. Universal spindles provide unlimited set-ups for straight or staggered boring. Specs: Crossline spindle adj. 12"; built in 4', 5', 6' & 8' length capacities; table stroke adj. ½" to 15"; minimum spindle centers 13/16", 1-1/16" & 1-1/2".

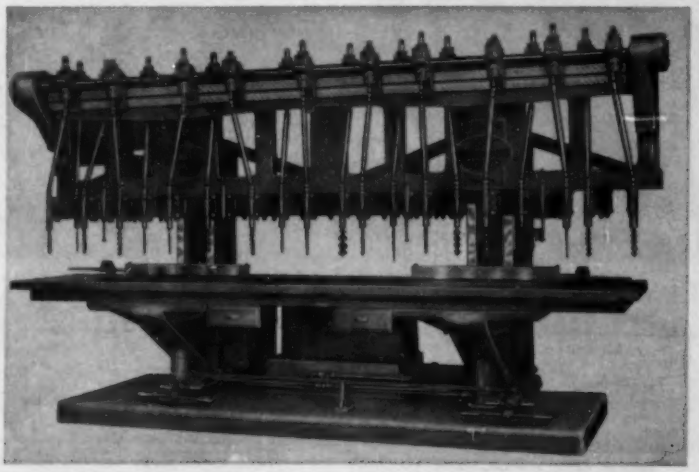


Style C311 MULTIPLE BORER—Medium size gang borer with features same as large machine, popular for parlor frames, chairs, tables and general purpose furniture boring. Specs: Crossline spindle adj. 10"; Max. boring length 4' 6"; table stroke adj. ½" to 14". Style C311-52 same with 17" crossline spindle spread.



Style CXH MULTIPLE BORER—Parallel shafts drive two rows of spindles, boring more holes over greater widths. Used for panels, assembled frames, etc. Universal spindles for straight or offset boring on close or extended centers. Specs: Crossline spindle adj. 22"; built in 4', 6' and 8' length capacities; table stroke adj. ½" to 16".

Style CFH MULTIPLE BORER—Type with spindles feeding to stock. Features hydraulic cylinder feed both ends. Feed can be started, stopped or reversed at any point in feed or return stroke. Specs: Crossline spindle adj. 14"; boring length 8' 6" in front of columns, 6' 6" between columns; spindle stroke adj. ½" to 12"; table 14" vertically adj.



Style CCXH DOUBLE COLUMN BORER—Available with boring lengths from 10' to 24', with 22" crossline spindle adjustment, bores up to 40 holes at one stroke. Can be furnished with divided table to operate as a single unit or as two smaller, independent borers. Style CCH available with 12" crossline spindle adj.

WWMA — Wood Working Machinery Manufacturers Association

B. M. ROOT Co. YORK, PA.

LETTERS

to the Editor

Seeks Plywood Pen Pal

Editor: I am one of the regular readers of your fine magazine, finding it not only interesting but equally helpful. I should like to make the acquaintance of and to correspond with some of my counterparts (plywood plant managers or superintendents) in the United States as well as in other countries, for the purpose of exchanging ideas on subjects of mutual interest.

—Julian K. Dy, Asst. Plant Mgr., Eastern Plywood Corp., Pasay City, Philippines

Laminated Block Flooring

Editor: We read with great interest the article, "Automated Line Finishes Laminated Block Flooring," in your September, 1960, issue. At the moment, we are installing a plant for a customer for the manufacture of laminated deal, where the surface finish is similar to the one you described. Could you put us in touch with the firms, listed at the end of the article, which supply the infrared ovens, the automatic spray unit, the final drying chamber and the special sanding unit? Just for your information, the deals we mentioned are manufactured out of three laminations with a total thickness of 7/8 in. and total width of 9 in. It is anticipated that they will be manufactured up to a maximum length of 30 ft.

—C. J. Hellriegel, Nukor (Pty.) Ltd., Johannesburg, South Africa

Needs Chipboard Cores

Editor: Will you please give us the names and addresses of companies which could furnish us with chipboard cores for 1 3/4 in. thick doors?

—Philip Ben Lieber, Pres., Architectural Products Mfg. Co., Inc., Shreveport, La.

Likes W.M.M.A.-W.M.D.A. Coverage

Editor: I have just seen the November issue of your publication and want to express the appreciation of W.M.M.A. as well as W.M.D.A. members for the coverage you gave to our Chicago meetings, in addition to the mention you gave our association in your editorial.

—Marie Lawton, Executive Secretary, Woodworking Machinery Mfrs. Assn., Philadelphia 3, Pa.

Beech for Cabinets

Editor: I would appreciate having a list of manufacturers capable of supplying us with carload lots of Appalachian beech and door hinges for small cabinets.

—Fred Davies, Cabinets, Inc., Deland, Fla.

Burma Group Asks Help

Editor: Will you be so kind as to send us literature and catalogs describing a complete sawmill and the capacity possible using best methods to utilize every part of both large and small logs? We should also like some information on complete veneer and plywood manufacturing plants which would help explain how the greatest amount of veneer could be extracted with the minimum amount of waste. We believe the information you might send us would give us more knowledge of these processes.

—U Thein Htun, Managing Partner, National Trade Development, Rangoon, Burma

Plant Layouts

Editor: Our firm is currently engaged in studies of plant layouts and flow plans for various by-products of lumber mills. Specifically, some of these include moulding plants, pallet plants and planing mills. We would appreciate your sending us a listing of articles printed in your publication.

—James A. Dwyer, Mater Engineering, Corvallis, Ore.

DADO WITHOUT SPLINTERING

SPECIAL VMT Dado Head

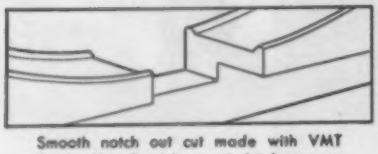
- No splintered sides of veneered or solid stock
- Cuts clean and sharp as a razor

Furnished with High Speed Steel Cutters, 4 spurs, 4 shear cut knives. Made with hub and self-centering sleeve (as shown) or with straight bore. Adjustable in width by spacers from 1-⅛" to 2-⅜"; 1-¼" to 2-½"; 1-½" to 3". Supplied with 12", 14" or 16" dia. cutting circle.

"Savings in every cut" — says one customer who had two men doing nothing but patching veneer before he put this Special VMT Adjustable Dado Head to work.

It's made to run on variety saw or tenon machine. Used to notch out, cut out for hinge seats and numerous other cuts. Absolutely will not splinter either side of veneered or solid stock.

Check with us right away for full facts and prices — remember there's "Nothing on the market like it!"

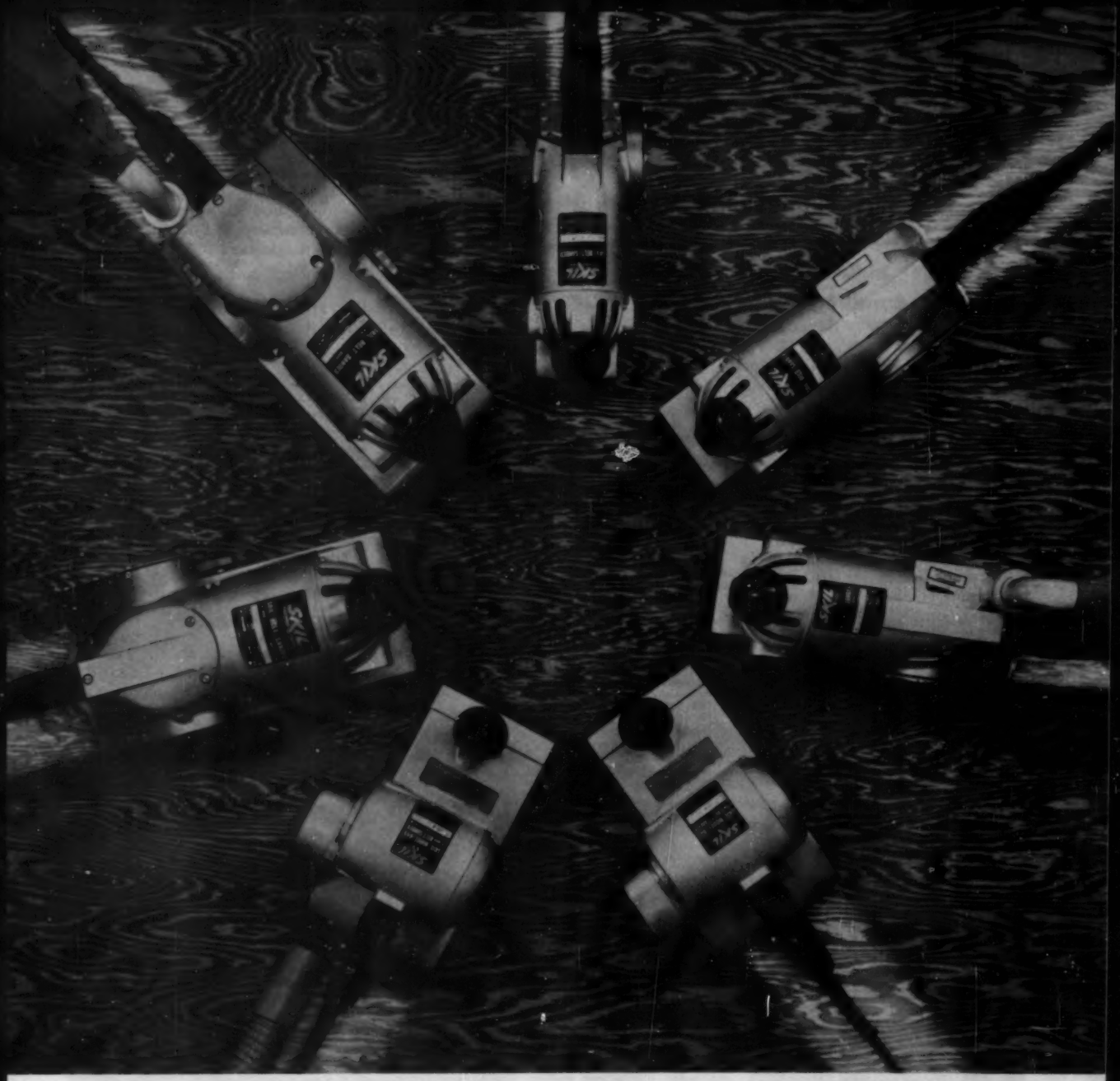


Smooth notch out cut made with VMT Dado Head with straight bore on variety saw.

Notch out cut made with VMT Dado Head on tenon machine. Spurs make sharp clean side cut as knives cut bottom.

Virginia MACHINE TOOL CO.

BASSETT, VIRGINIA



Which Skil belt sander is right for you?

Standard duty? Heavy duty? Dust-less? 2¼", 3", 4", 4½"?

No matter what your job or budget requirements, one of these 7 Skil Belt Sanders will fit your needs.

Skil models clockwise from top:

2¼" heavy-duty (Model 505)—Fast, powerful, yet weighs only 10½ lbs. for easy handling. *List $90.00*

3" heavy-duty (Model 448)—A real powerhouse for extremely fast stock removal. Very cool running. *List $130.00*

3" heavy-duty (Model 449)—Same as Model 448, but with integral dust pick-up system. *List $160.00*

4" two-speed, standard duty (Model 805)—Has high speed for fast stock removal; low speed for finishing work, removing paint. *List $94.50*

4" standard duty (Model 445)—Rugged, low cost, complete with vacuum dust pick-up attachment. *List $94.50*

4½" heavy-duty (Model 323)—Biggest capacity Skil sander, for maximum stock removal, constant heavy-duty service. *List $175.00*

4½" heavy-duty (Model 324)—Has all the features of Model 323 plus integral dust pick up system. *List $210.00*

Your Skil distributor is anxious to demonstrate, right now. Look under "Tools-Electric" in the Yellow Pages, or write: Skil Corporation, 5033 Elston Avenue, Chicago 30, Illinois, Dept. 151M.

SKIL ...and SKILSAW POWER TOOLS

PRODUCTION IDEAS

Men • Materials • Methods • Machines

Automatic Bundling

THE TIME REQUIRED to tie bundles of wood parts has been cut 25% at Forest Products Mfg. Co., Jasper, Ind., through use of an automatic twine tying machine, according to W.C. Seng, company official. The time saved has indirectly cut costs by freeing the operator who formerly performed hand tying for other manufacturing operations.

At Forest Products, wood parts are tied in bundles—approximately 100 each day—for shipment and storage after completion of various machining operations. The bundles vary in shape, size and number of pieces. The tying machine adapts to these various sizes and shapes without adjustment.

To illustrate, a bundle is first placed on the machine's waist-high table. The operator then steps on a foot trip which activates a revolving arm carrying twine. The twine encircles the bundle twice, is automatically knotted, then cut. As many ties as desired can be made. The double-loop, non-slip knot made by the machine stays tied during rough handling and shipping.

The machine is mounted on casters and requires only 110 v. power so that it can be used anywhere in the shop as the need arises. It does not require a skilled operator.

AUTOMATIC TYING MACHINE ties wood parts in bundles for shipment and storage at Forest Products Mfg. Co. Machine handles bundles of various sizes and shapes without adjustments (1201)

Bevel-Channeling Double-Hung Windows

IN MANY MILLWORK and sash and door plants, the bottom edges of the bottom sash of double-hung windows are machined for bevel-channeling in the single operation after the sash has been assembled but prior to glazing.

This operation is often done at the shaper. It involves the use of a combination knife and dado setup, or a special cutterhead when the bevel and channel are of constant standard size.

A small sash and door plant has adapted a saw bench for this operation. The bench mounts a sturdy spindle on which the cutterhead is carried similar to the shaper. The end that would normally be the free end is supported by a ball-bearing standard to relieve any whip which might otherwise occur.

Another plant uses a single tenoner

INCREASE PRODUCTION!

OBP dust and chip collection from high speed moulder incorporates ball joints for quick, easy access to machine for set-up and maintenance. Proper engineering of system eliminates any possibility of chip fall back onto work, and guarantees years of trouble-free operation.

For a surprisingly low cost, Ohio Blow Pipe can revise your present system to current requirements or anticipated capacity. At the same time, the newest and most efficient engineering advances can be incorporated. And OBP can revise your system without necessitating a shutdown of your plant.

A modernized OBP system can greatly increase per man hour production, reduce fire hazards and handling costs, increase machine life, up-grade work quality and result in better working conditions and relations within your own plant as well as in the surrounding community.

Call today for an OBP engineer to make a requirements survey of your plant and give you a cost estimate.

We do the complete job.

ENGINEERING
MANUFACTURING — INSTALLING

OHIO BLOW PIPE CO.
1719 DOAN AVE.
CLEVELAND 12, OHIO

Bring your Dust & Waste handling up to date with a Modern OBP System

OBP system installed on line of multiple saws keeps area neat and clean — promotes much better working relations, and actually is responsible for increased production.

Photo shows OBP collector located on storage silo. This is part of an extensive system which automatically conveys all dust, wood flour and chip waste to furnace for use as free fuel.

Southern Screw Company is a fastener specialist — makes nothing but threaded fasteners. Southern's 15-year experience in the exclusive manufacture of screws is responsible for its reputation as a manufacturer of the finest USA-made standard fasteners available.

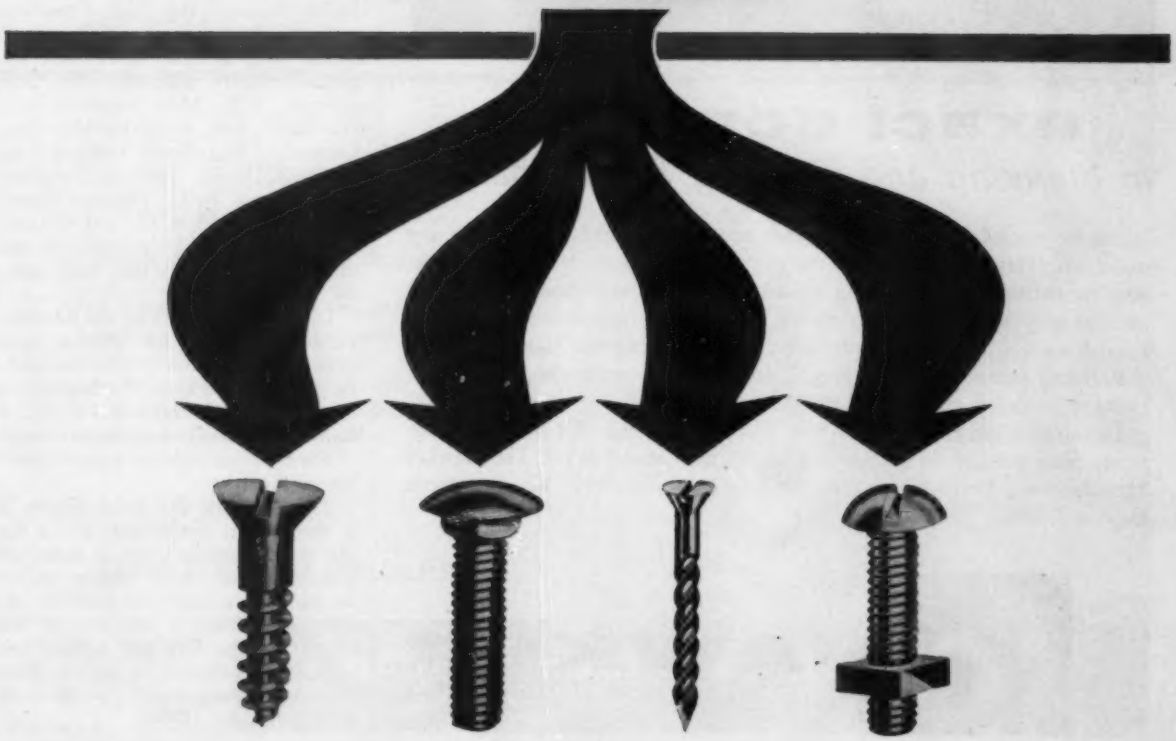
Southern fasteners are sold through leading distributors located throughout the nation. These sources are supplied from Southern's amply stocked warehouses in New York, Chicago, Dallas, and Los Angeles, or from our stock of over 1,500,000,000 fasteners at the factory and main warehouse in Statesville, North Carolina.

Let Southern's Stock List guide you in the selection of standard items immediately available from stock. Write on your company letterhead to: Southern Screw Company, P. O. Box 1360, Statesville, North Carolina.

Wood Screws • Stove Bolts • Hanger Bolts • Drive Screws • Dowel Screws
Machine Screws & Nuts • Carriage Bolts • Tapping Screws

YOUR BEST SOURCE FOR STANDARD FASTENERS

Southern
SCREW COMPANY
STATESVILLE • NORTH CAROLINA



Use Reader Service Coupon on Page 163.

for the combination operation. This is provided with an additional vertical spindle mounting to carry the dado head. Vibration sometimes gives trouble at this machine, however, as the bed support is not as sturdy as that provided in the shaper operation.

In many of the larger plants and some of the smaller ones, they have found it more efficient and economical to do this work on sash moulders when sticking the bottom rail stock in multiple lengths before assembly. It is possible in this operation to bevel and channel the bottom edge and shape the upper edge in a single pass through the machine. These plants also use double end tenoners to groove and bevel-channel the bottom ends of the stiles.

Where proper equipment is available, the latter operation appears to be the best and lowest cost method. If proper care is used, bevel-channeling bottom rails before assembly does not seem to interfere with assembly appreciably.

Quality Control System

CHRISTMAS TREE TINSEL has solved a finishing quality control problem at Admiral Corp.'s wood cabinet plant in Shelbyville, Ind.

TV CABINETS move under row of Christmas tree tinsel at Admiral Corp. Tinsel, which is grounded, removes static electricity which formerly pulled dust and dirt to lacquered wood surfaces (1202)

Prior to the tinsel installation, dust collected on the surfaces of television cabinets as they proceeded along the finishing line. Ed Benchik, plant manager, knew that static electricity attracted the dust and experimented with ordinary Christmas tree tinsel as a possible solution.

The tinsel, which is grounded, removes all static electricity which otherwise pulls dust and dirt to the lacquered wood surfaces. Tinsel replacement is every two days.

Brand Marking

BRAND MARKING the finish is proving to be as effective a sales tool as good design and skillful construction for some furniture manufacturers. For example, J. L. Metz Furniture Co., Hammond, Ind., Columbis Mfg. Co., Louisville, Ky., Davis Cabinet Co., Nashville, Tenn., Hy-Lan Furniture Co., Hickory, N. C., Hibriten Furniture Co., Lenoir, N. C., and Century Furniture Co., Hickory, N. C., are using decals to identify their high quality finishes.

Decals are supplied by the finishing material suppliers for affixing in a drawer, back section or other unfinished yet accessible area. Wording on the decal briefly identifies the finish. A finish trade mark or company name of the finishing material supplier completes the copy.

Tied in with the decal device is a three-color, pocket-size folder for the retail salesman's use. It draws attention to the decal, urging its use to sales advantage and pointing out the finish features afforded by the topcoat lacquer formulated with butyrate resin—resistance to age discoloration, and staining from water, alcoholic beverages, etc. (1203)

exact control

in blanking and finishing rough squares

Blank out rounds at high feed speeds and get best surface finish on any wood with Hawker's control of cutter speeds and feeds. No chatter, spinning or twisting. Self-centering infeed guide plus horizontal and vertical outfeed rolls hold stock firmly during cutting! Easy adjustment gives minimum down time. Semi-automatic hopper feed for continuous high production.

Perfectly balanced, match-ground knife sets are maintained by using a Hawker precision cutter knife grinder.

Demonstrations arranged in your plant—or let us refer you to a customer near you. Write for manual on the new Model 1000. The Hawker Manufacturing Division, East Dayton Tool & Die Co., 1425 Keowee Street, Dayton 4, Ohio.

HAWKER

MACHINE TOOLS FOR WOODWORKING

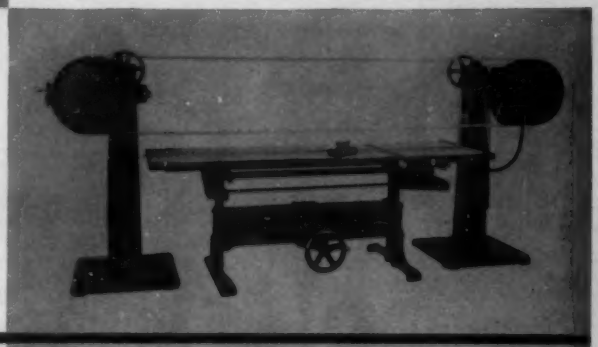
For the most demanding sanding jobs there's an "OLIVER" Sander to fill the need!

No. 381
Heavy Duty Oscillating Single Spindle Sander and Metal Grinder

Sand, grind or polish metal, plastics and wood — its versatile! Available with power tilting feature, operated by foot control. Dial at right indicates degree of tilt. Rigidly built to provide low cost operation, high efficiency. Rugged, it stands up under most adverse conditions.

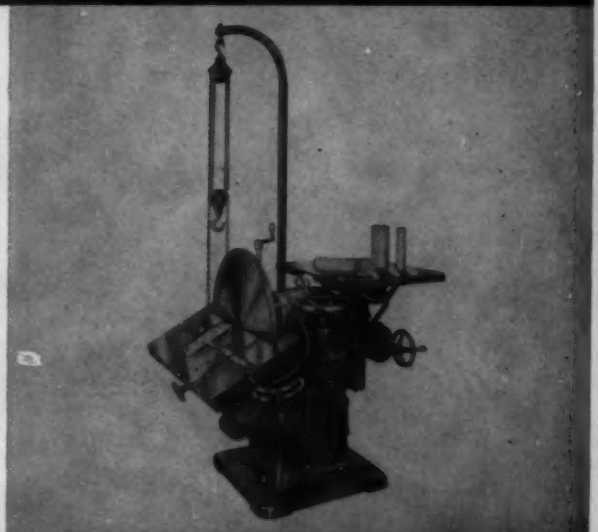
No. 183
Reversible Belt Sander

Motor driven. Designed for rapidly sanding and polishing all kinds of line and edge mouldings, and straight, flat and irregular surfaces. Ideal for sanding and finishing desks, chairs, all types of medium sized furniture. Can be used for polishing metal surfaces.



No. 34-DSD
Disk and Spindle Sander

Two types of sanding operations are combined in one machine: disk sanding and oscillating spindle sanding. Grinds non-ferrous metal patterns or aluminum parts. Highly flexible, efficient design. Table tilts to 45 degrees one direction, to 10 degrees in opposite direction.



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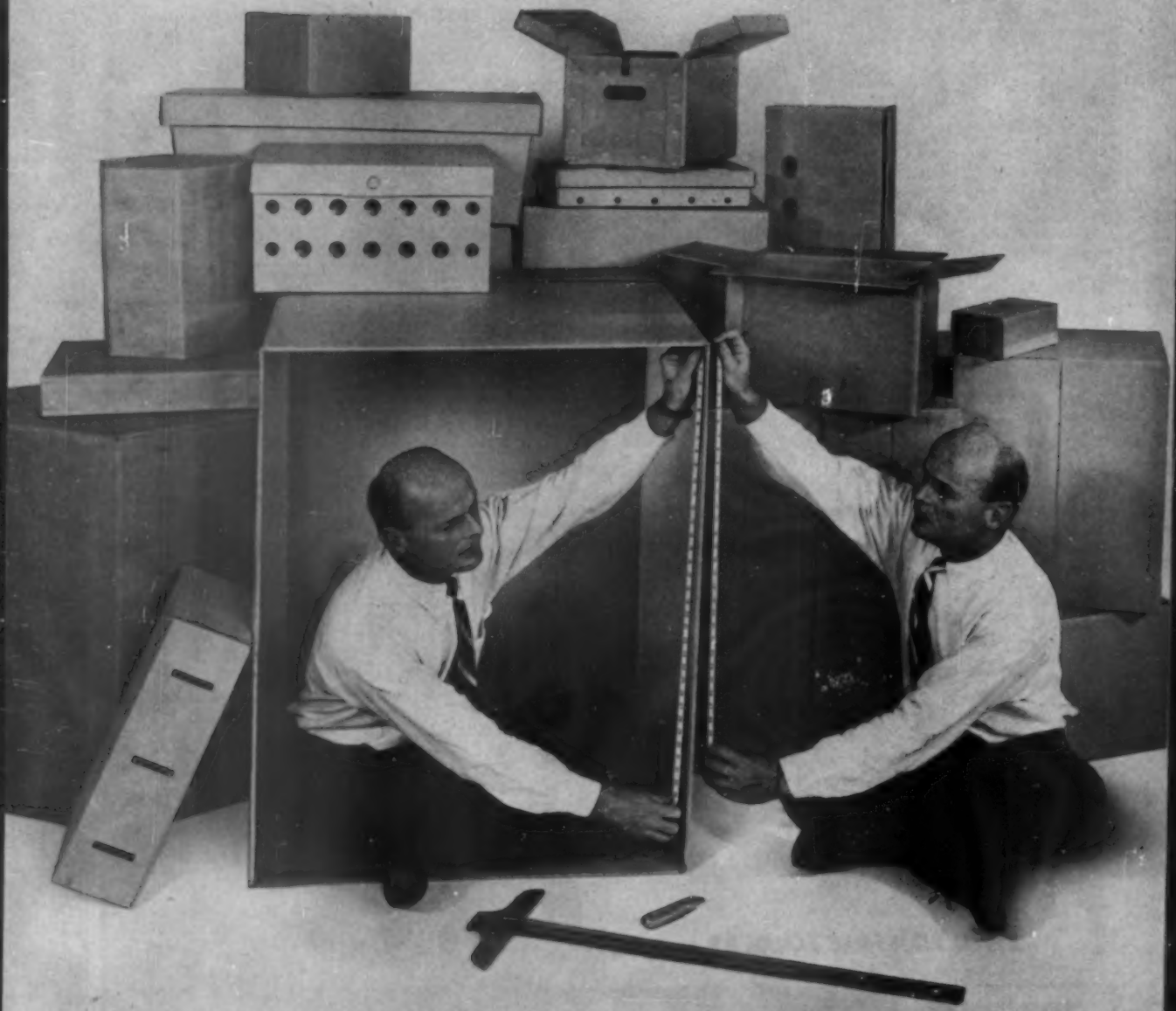
OLIVER MACHINERY COMPANY
GRAND RAPIDS 2, MICHIGAN

GAYLORD SOLVES
PACKAGING PROBLEMS INSIDE AND OUT

Your Gaylord Man isn't twins, he just works like it. He knows the "inside" of container manufacture and the "outside" of packaging operations, so he can give you double-duty service.

Got a packaging problem or two? Call the man who solves them by the pair—your nearby Gaylord Man. Today.



CROWN ZELLERBACH CORPORATION
GAYLORD CONTAINER DIVISION

Gaylord Boxes

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PLANTS COAST TO COAST

The QUALITY

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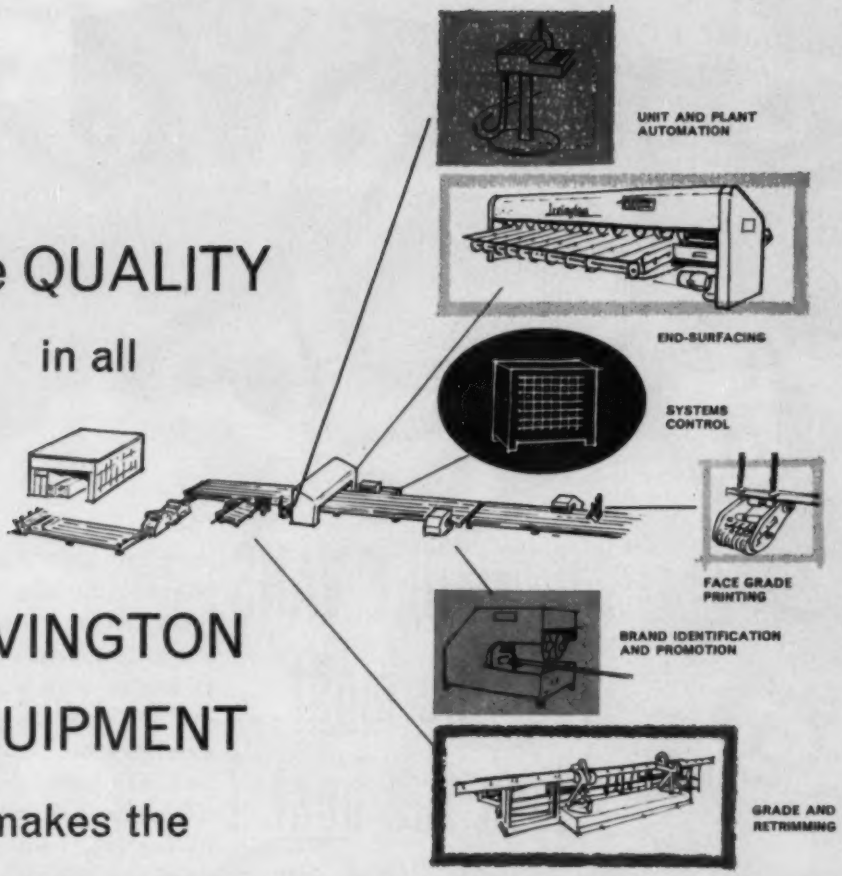


PROFITABLE Irvington DIFFERENCE

Since 1907, Irvington has searched out new methods and improved equipment to help the lumber industry operate more profitably. Irvington quality and engineering originality are available in a complete line of equipment for sawmill trimming, end-surfacing, end-printing and waxing, face grade printing, and Irvington Automatic Control.

TWO PLANTS: P.O. Box 6438, Portland 23, Oregon • 3 Colfax N.E., Grand Rapids 5, Michigan

◀Use Reader Service Coupon on Page 163.▲

40-FOOT MODEL FCDT features new low floor height and new high capacity — 2,958 cubic feet — achieved by the use of specially-designed drop center axles.

Dorsey FURNITURE VANS haul the most... look the best!

Long recognized as the most beautiful furniture vans on the road, Dorseys also have maximum cubic capacity without sacrificing strength. Side posts and X-braces are 1½-inch-square steel tubes and exteriors are fully protected by half-inch bulb rub rails. Measure a Dorsey . . . examine it feature-by-feature. Your eyes and your yardstick will tell you that Dorsey's your best buy.

35-FOOT HI-CUBE VAN has 91½-inch inside width and inside height of 90 and 114 inches. Also available with drop axle. Four rows of recessed steel cleats have plastic shields.

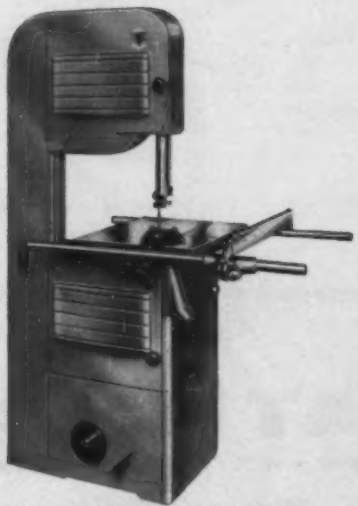
100,000 miles and still like new! This Dorsey, one of several in the fleet of Jimmy Wilson, Jr. Storage of York, Pa., shows how Dorseys stand up in service.

See your Dorsey Distributor for trailers designed and built to fit your needs

DORSEY **DORSEY TRAILERS / ELBA, ALABAMA**

A subsidiary of the Dorsey Corporation

Lasting accuracy for big curve cuts



Delta 20" Wood Cutting Band Saw, also 20" Metal-Wood Variable Speed and 14" Models.

You'll get perfect saw cuts *for the life of the machine* when you have this rugged Delta 20" Wood Cutting Band Saw in your shop. Unique "3 point" adjustability—an exclusive Delta built-into-the-frame feature—makes it easy to keep wheels, upper guide and table minutely adjusted to one another for continued machine alignment. Double trunnions, *one on each side of the blade*, furnish solid table support for cutting at maximum capacity (such as the compound curve cut in the 5" x 12" ornamental piece shown above.)

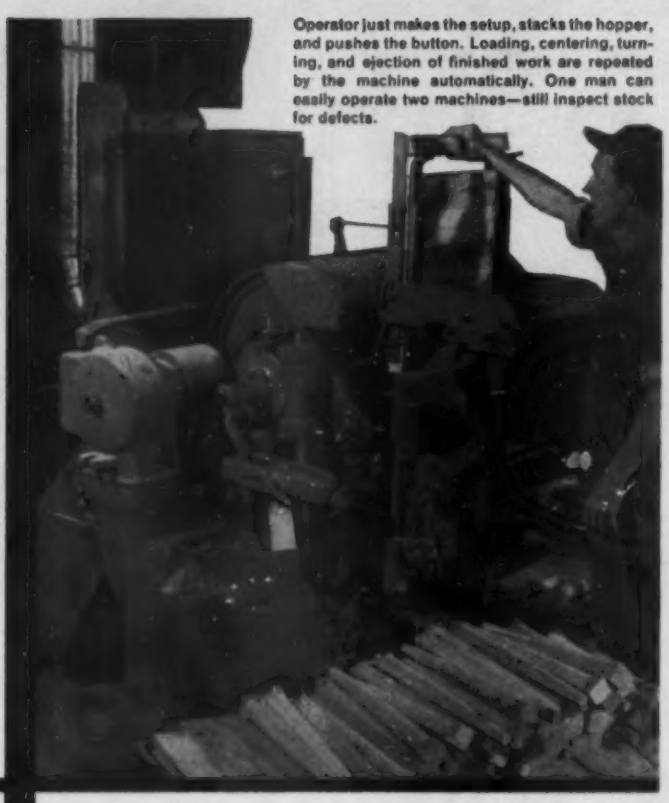
Your Delta Industrial Distributor (listed under "TOOLS" or "MACHINERY" in the Yellow Pages) will show you the many other outstanding features this tool offers for top performance on *your* jobs. For FREE Delta Industrial Catalog on the entire line of Delta woodworking tools and accessories, write: Rockwell Manufacturing Company, Delta Power Tool Division, 668M N. Lexington Ave., Pittsburgh 8, Pa. In Canada: Rockwell Manufacturing Company of Canada, Ltd., Guelph, Ontario.

DELTA INDUSTRIAL TOOLS

another fine product by

ROCKWELL

UP TO 500% MORE PRODUCTION ON MATTISON "66" AUTOMATIC SHAPING LATHE



Operator just makes the setup, stacks the hopper, and pushes the button. Loading, centering, turning, and ejection of finished work are repeated by the machine automatically. One man can easily operate two machines—still inspect stock for defects.

"Our Mattison No. 66 shaping lathe is giving us 3 to 5 times more production than our old lathe, depending upon the type of turning and kind of wood used. We're extremely pleased with the quality of turnings, as well as the increase in production."

H. L. Moore, president, Home Chair Co., Ronda, N. C., echoes the same satisfaction voiced by many woodworking companies as they watch air power automatically operate the tailstock, carriage, and steadyrest on their Mattison No. 66 shaping lathes.

Automatic loading, centering, turning, and ejection of finished work form a direct chain to lower production costs on a wide variety of sizes and shapes for both hard and soft woods. Easily adjustable to any required production rate, the Mattison "66" cuts costs with automatic turning of stock from ¾" to 4" square and up to 30" long.

Automatic cutter retraction increases knife life

The new Mattison "66" also saves money through less downtime, because the knives stay sharp longer. Says Mr. Moore, "Our experience has been that the knives stand up from 20% to 25% longer because the cutters are automatically removed from the stock as soon as the turning is completed. There's no excessive rubbing to dull the knives."

If turning is part of your woodworking operation, chances are pretty good that a new Mattison "66" can pay for itself quickly in your plant, too. Your Mattison dealer can arrange a demonstration at the factory or in a "Mattison-equipped" plant near you. Contact him now for an appointment.

Electrically operated hopper feeding attachment is hinged, can be swung outward to give unobstructed access to knives for whetting, touching up, or setting.

MATTISON MACHINE WORKS

MATTISON

WOODWORKING MACHINERY

"Built better . . . to produce better quality"

"A Case for Wood"—Potent New Sales Tool

FOR what must be the accomplishment of the year in selling wood, we doff our editorial hat to the Edward Hines Lumber Co. Its recently issued 60-page booklet, "A Case for Wood," attains the proportions of a classic as it convincingly answers many questions which have been raised about wood over the years.

The myth of "dry rot"—labeled as a completely misleading and unfortunate term—is thoroughly debunked. Insects are discussed in a frank and thorough effort to separate fact from fiction. On the question of fire safety, it is pointed out that much more is being accomplished to make wood noncombustible than is being done for the metals to overcome external thermal expansion, sag and collapse. "Far greater life safety is realized," say the authors, "in using economical wood construction and employing sprinkler protection than in using any so-called 'fireproof' construction without the additional protective devices—and for equivalent funds."

In a revealing chapter on paint performance it is clearly demonstrated that what are called "paint failures" or "wood failures" are usually conditions resulting from inadequate venting of trapped vapor moisture or poor construction practices. The point is made that you actually "paint wood to decorate—not to protect."

THE superior insulating value of wood is described as a year-round advantage. Many people, even in the wood field itself, will get a jolt from the statistical evidence which shows that steel and aluminum are 390 times and 1,770 times, respectively, poorer than wood as an insulator against heat or cold. They will likewise learn that concrete is 15 times poorer, and common brick is six times poorer than wood as an insulating material. For example, a wood finish floor over a wood subfloor offers more protection against heat loss than would a 22 in. concrete slab—and where will you find a concrete slab more than 4 in. thick?

Dimensional stability, contrary to general belief, is described as "perhaps the greatest of all the advantages possessed by wood." If you don't believe it, there is evidence that a 160 ft. steel member will expand fully 13.9 in. before reaching the temperature of sag during a fire. Further, it is shown that, "length being equal, aluminum siding will exhibit dimension change four times greater in any 24-hour period than will wood siding *in an entire year!*" Beyond this natural advantage, there is laboratory evidence to support the prediction that new, potentially inexpensive treatments will give wood added dimensional stability which will greatly increase the profit potentialities of a multitude of wood products.

WOOD'S strength, weight for weight, is greater than that of steel. Full advantage has usually been taken where its greatest strength—tension parallel to grain—dictates wood's use, as in beams, girders, floor joists, roof rafters and stringers. Where wood offers less strength, as in compression and tension perpendicular to grain, engineering design is taking over to provide most efficient use of this versatile material. Thus, engineered wood components, offering both on-site cost reductions and superior functional efficiency, are rapidly gaining acceptance and promise to be one of the most revolutionary developments of the 60's in the construction field.

While the remarkable Hines booklet has been designed primarily as a backbone-stiffening sales weapon for those on the firing line whose selling efforts are frequently hindered by "old wives' tales" about wood's supposed shortcomings, the evidence it marshals in wood's behalf makes "A Case for Wood" must reading for every man who has a stake in this remarkable material.

As Charles M. Hines observes in his introduction, wood is our only renewable natural resource. It is, indeed, a material with a future. And that future is made doubly secure as each new weapon is added to the industry's offensive armament.

Jack Koelliker

Canada joins U.S. in big industrywide event as President, Prime Minister, 30 governors, many mayors kick off October 16-22 observance with proclamations—First reports from many committees set pattern for even bigger Week in '61

IN PHOENIX, ARIZ., Hoo-Hoo took over 800 ft. mall in city's largest shopping center. As shoppers entered mall they were greeted by 12 ft. high plywood lumberman. Placard nearby displayed governor's and major's proclamations. As shoppers proceeded through mall they saw series of displays representing manufacturers, wholesalers and retailers. In Flagstaff and Tucson, displays were set up in banks and store windows, telling story of wood and other forest products, according to Walter Howard, Lumber Merchandisers Assn. and state chairman

First Forest Products Week an International Success

NATIONAL FOREST PRODUCTS WEEK is here to stay. The President of the United States signed into public law a joint Congressional resolution proclaiming the third week in October each year as N.F.P.W., and at least 30 governors and many more mayors signed similar proclamations. In the Dominion of Canada the Week was recognized in an official statement by the Prime Minister.

A "Guide for N.F.P.W." was developed, as was a "How to Hold an Open House for N.F.P.W." A checklist of 115 ways to promote the Week was printed. Three associations produced publicity kits. One 4-page folder, entitled "Sales Promotion Opportunities for National Forest Products Week," was printed by the National Lumber Manufacturers Assn. and distributed to National Wood Council membership. N.L.M.A. reports that it was literally swamped with over 400 requests for more than 75,000 pieces of literature.

Television, radio, newspapers, newspaper supplements, whole sections of newspapers, magazines, bumper strips, window banners, a children's book, displays, parades, exhibits, various contests, speeches, films, open houses, magazine and newspaper advertisements, truck banners, proclamations, booklets, pamphlets, luncheons, and young ladies designated as "Miss Forest Products Week" were all part

Start Planning Now for 1961 National Forest Products Week

National Forest Products Week, a resounding success in its first year and a proven "grass roots" multiplier of the effectiveness of the National Wood Promotion Program, was reviewed, applauded and endorsed for 1961 at the National Wood Council's annual meeting November 7, in Washington, D. C.

The 1961 Week will be observed October 15-21.

In its resolution the N.W.C. recommended that each member group make every effort possible "to utilize the promotional value of N.F.P.W. in 1961," and urge its membership to take immediate action—now—in planning for the Week.

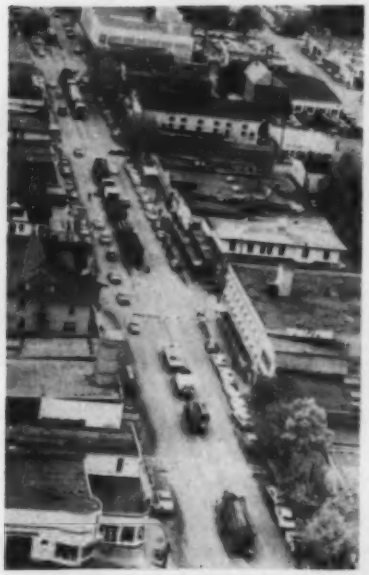
"The event," stated the committee that presented the endorsing resolution, "is ideal for telling the story of forest products to the public and will continue to become a more powerful medium each year as the industry refines and expands the promotion."

In acting on a supplementary motion offered by Clove Edgett, of the Canadian Wood Development Council, the N.W.C. expressed its appreciation for the untiring efforts of N.F.P.W. Coordinator Jack S. Berry, Sacramento, Calif., the Hoo-Hoo Clubs and others who worked to put the event across at the "grass roots," and extended to Jack Koellisch, editor and manager of WOOD & WOOD PRODUCTS, representing the trade press, thanks for the support and cooperation of industry publications.

LUMBER INDUSTRY
The Daily Missoulian
SPECIAL EDITION
NATIONAL FOREST PRODUCTS WEEK
OCTOBER 16 to 22
THE COMPLETE STORY OF THE WOOD PRODUCTS INDUSTRY IN MONTANA
24 PAGES 24

FOREST PRODUCTS industries effectively told story in Montana with 24-page Missoula newspaper N.F.P.W. supplement—an outstanding example of what can be down without blatant advertising. Articles and illustrations, printed with pine scented ink, told how to work, build and live better with wood, and how various forest products industries are bringing more jobs to state

WITH TWO SUCCESSFUL forest products weeks behind them, Northern Idaho's Week activities this year showed how experience and planning can make it work. "Forest to Family" was theme of Week which was proclaimed by governor and mayors. Instead of queen, North Idaho used Paul Bunyan. "The Future of Forest Products" was subject of junior and senior high school essay contests. Retail stores featured displays, used advertising to promote Week. There were birling, log sawing and chopping exhibitions and lumber grading contests, plus woodworking hobby display and contest. Elks club sponsored dance for teenagers and prizes were given to best-dressed lumberjack and lumberjill. Many other activities rounded out successful week, reports Mrs. Beatrice Davis, Potlatch Forests, Inc., chairman



IN VERNON, B.C., loggers, mill operators, press and radio together demonstrated what forest products industry means to community in terms of payroll dollars. Most spectacular was parade of 25 loaded trucks. All mills in area paid employees with new $2 bills, putting some 35,000 into circulation during N.F.P.W. In other areas, major mills held open house, industry films were shown on TV, display homes were opened to public, and Week really got off ground when giant N.F.P.W. banner soared to height of 50,000 ft. on weather balloons in downtown Vancouver, reports J. S. Johannsen, MacMillan, Bloedel & Powell River, Ltd. and provincial chairman

SECRETARY OF COMMERCE Frederick H. Mueller (left), and Henry Bahr, N.L.M.A. secretary officially opened forest products industries exhibit in Department of Commerce building, Washington, D. C., to highlight Week's activities in nation's capital

GOVERNOR and 47 mayors signed N.F.P.W. proclamations in Illinois. In Chicago, Jack Koellisch, editor and manager, WOOD & WOOD PRODUCTS, moderated press conference featuring 9-man industry panel three weeks before Week to brief area press on significance of N.F.P.W. More than 80,000 people daily saw signs and displays in one of major railway stations. "Why a National Forest Products Week," was subject of popular radio program. Shown are some men who spearheaded Week's activities in state: (left to right) Ernest Hammerschmidt, Floyd Poore, Paul Schank, Ed Roche, Acorn Wholesale Millwork Co. and state chairman, Bill Henif, Charles McCarthy and Bill White

BILLBOARD in Albuquerque, proclamations by governor and city commissioners, literature distributed in schools, banks and lumber yards, newspaper ads, films and talks before service clubs, and public displays highlighted New Mexico's activities co-ordinated by E. J. Wood, Gibson Lumber

PORTLAND HOO-HOO chose Miss Forest Products (above) who made many appearances during Week on TV and before clubs, wearing clothes made from wood fiber. (Below) Oregon Governor Mark Hatfield presents plywood letter advocating greater use of wood to Hal Mayhew, president, Portland Hoo-Hoo. Letter was displayed in downtown store window. At Grants Pass, 150 logging trucks paraded through city, and throughout state industry teams provided speakers for local club meetings. Wood tours drew crowds in many counties, and Tillamook townspeople dressed in logger attire for entire Week, reports Joe Adair, Jr., Joseph Adair Lumber Co. and state chairman

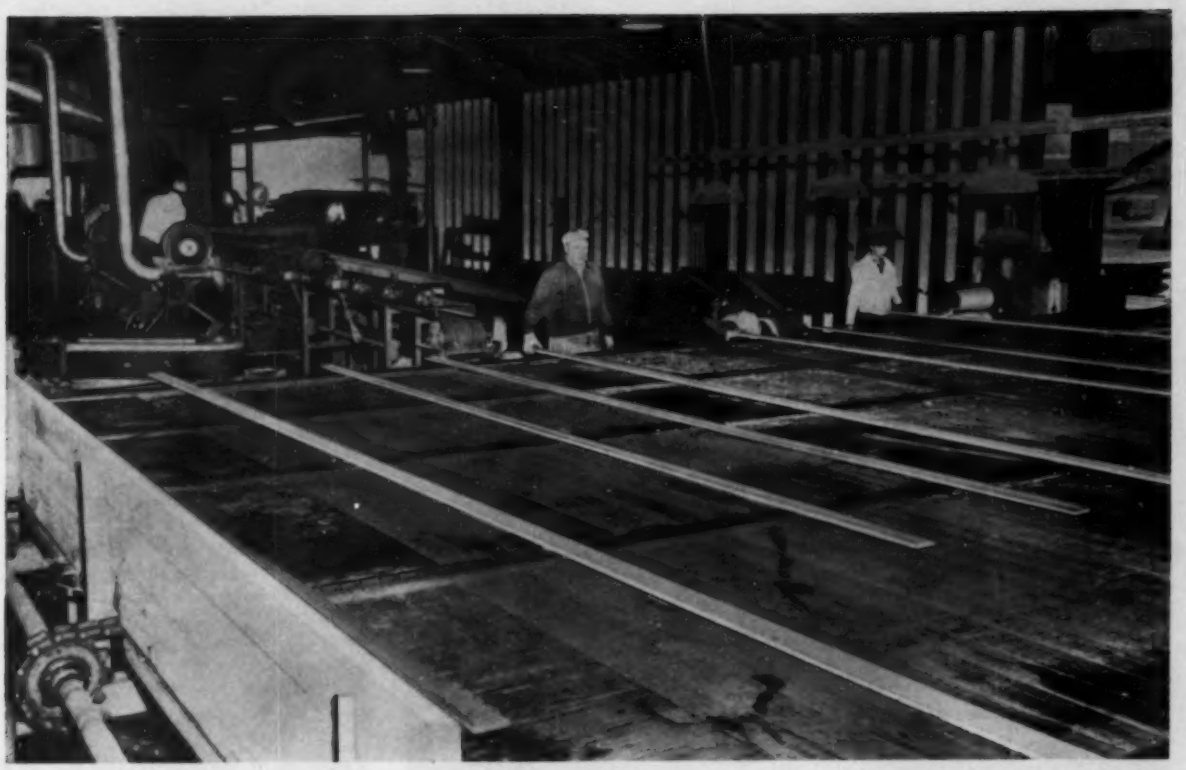
NEVADA'S OBSERVANCE of N.F.P.W. was confined to Reno, Sparks and Carson City areas. Booth at Washoe County Fair was success. Movies shown there, in schools and on TV were offered by Weyerhaeuser Co. and Western Pine Assn. Above photo appeared in Reno papers with writeup and copy of governor's proclamation: (left to right) Fulton Horning, president, Long Valley Lumber Co.; H. E. Norton, Feather River Lumber Co. and state chairman; Governor Grant Sawyer; and J. K. Metzker, president, Feather River Lumber Co.

STORE WINDOWS on heaviest traveled street in downtown Boston, Mass., carried forest products story to thousands of passersby for 1½ weeks prior to N.F.P.W. Newspaper heralded event and many retail lumber yards distributed literature. Another activity was color TV show beamed throughout Massachusetts, reports Walter M. Webb, Warren Trask Lumber Co., state chairman

of the celebration staged throughout the United States and Canada during the week of October 16-22, 1960. See the accompanying pictorial story on representative activities.

Enthusiasm, willingness, ingenuity, promotional know-how, organizational ability, public relations sense, and unprecedented cooperation by wood industry people everywhere were the key words describing the observance of National Forest Products Week. Originally suggested by WOOD & WOOD PRODUCTS in its November, 1956 editorial, the event was sponsored this first year by the International Hoo-Hoo with Jack S. Berry, Sacramento, Calif., as national coordinator, backed by the endorsement of the

Continued on Page 38

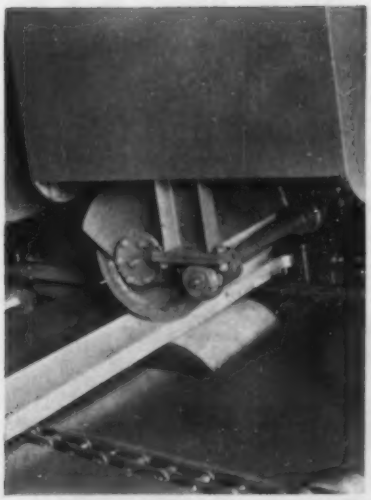


NEW PLANING MILL LAYOUT at Haskins Wood Products, Ltd., is engineered to save costly steps. Graders and sorters maintain rapid production pace with aid of lumber puller (right) and retrim man (left) who works only a few steps away

Integrated Planing Mill

Boosts Output 55%

Decision to build mill rather than remodel outdated plant reduces labor costs 36% per 1,000 bd. ft. for Haskins Wood Products, Ltd.—Integration with sawmill and new particle board plant increases over-all profits



END PRINTER, mounted on trimmer frame behind saw, identifies each piece of planed lumber with Haskins mark

AFTER ONE YEAR'S OPERATION, Haskins Wood Products, Ltd., reports a 55% increase in production with the same manpower at its new planing mill, integrated with its sawmill and particle board plant near Swisshome, Ore. The efficiency afforded by the change has eliminated costly overtime and resulted in a labor charge reduction of 36% per 1,000 bd. ft.

Before combining all operations at Swisshome, Haskins operated its planing mill 10 miles from the sawmill site. Owners R. E. Haskins and his son, Harold, reasoned that the inefficient operation could not be made

INTEGRATING PLANING MILL (*left center*) with sawmill and particle board operations (right) provides efficient utilization of wood shavings and chips to increase over-all profits

POWER ROLLER, at near edge of conveyor system, increases sorting chain production 50%, maintaining smooth work flow throughout mill without additional men or overtime

ONE MAN controls and synchronizes flow of rough lumber using five-arm tilting unloader hoist. Matched capacity equipment increased production 5,000 bd. ft. per man

competitive even with extensive remodeling. To insure lower operating costs right from the start of production meant building an entirely new planing mill—one completely modern from the foundation up.

Mill Serves Two Aims

Before embarking on the modernization program, management outlined two main objectives: (1) The new planing mill must be engineered with matched capacity equipment for full utilization of facilities and manpower. (2) The establishment of a particle board by-product plant to use mill shavings and other wood waste and increase over-all profits. (For complete details on Haskins' particle board plant see October WOOD & WOOD PRODUCTS.)

All the equipment, from the tilting unloader hoist to the sorting shed roof, was purchased as a package to meet the requirements for a full-efficiency, compact planing mill. All moving equipment was geared to match the fast feed production rates of the planer and matcher.

Equipment Synchronized

In operation the mill moves lumber quickly and with automatic precision. Synchronized equipment keeps lumber in motion so that production flows without stops, bottlenecks or delays. Costly and time-consuming manual operations are reduced to a minimum.

The revealing cost-reduction figures have convinced Haskins management of the soundness of their decision to build an entirely new mill rather than attempt to remodel an outdated plant.

"Our new planing mill has more than lived up to our expectations," R. E. Haskins reports. "We still employ the same number of men, but our daily production is up 5,000 bd. ft. per man without overtime."

Equipment Used at Haskins Wood Products, Ltd.

(For more information circle number in coupon on Page 163.)

(1209) Planing mill equipment .... Stetson-Ross Machine Co.

Don't miss

this issue's big

BOARD and PANEL PRODUCTS

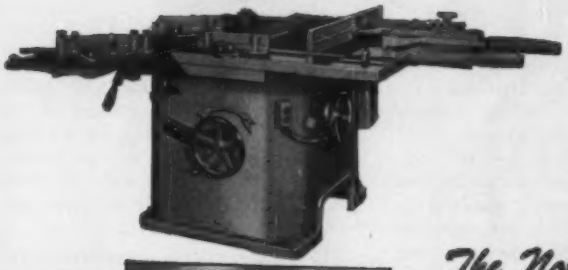
PROGRESS REPORT

Pages 45-133

MODERN Woodworking's Workhorses

SO VERSATILE **they pay for themselves in a hurry!**

SO DEPENDABLE **they deliver years of trouble-free service!**



The Northfield NO. 4 VARIETY SAW

Tilting Arbor Type

The NORTHFIELD No. 4 Variety Saw is a carefully designed, quality machine with the latest features. It offers maximum versatility for all around sawing in any shop. In addition to wood it's adaptable for cutting light metals, plastics, etc. The table on the basic machine is 44" x 36" plus a 19½" extension for carrying the rip gauge table. One or more 12" table extensions can be furnished to increase table size. A rolling section table is also available. You'll like this machine for its versatility, heavy duty capacity, ease of handling, and speed with precision.

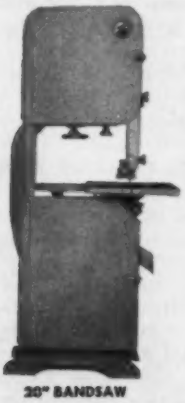
The Northfield HEAVY DUTY HAND JOINTER

This hand jointer is designed and built for production work where accuracy and fine quality of work are essential. Working surfaces are convenient to the operator. Weight is well distributed to make a well balanced smooth operating machine.

The Northfield MEDIUM DUTY HAND JOINTER

These jointers are built in the 8" and 12" width. They are designed for the most particular kind of work. They are compact, accessible and offer fine performance at reasonable cost.

WRITE TODAY FOR LITERATURE AND PRICES



20" BANDSAW

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FOUNDRY & MACHINE CO.

NORTHFIELD | MINNESOTA

SHAPER

36" BANDSAW (REAR VIEW)

SURFACERS

MANUFACTURERS OF HIGH SPEED PRECISION HEAVY DUTY WOODWORKING EQUIPMENT

Is Safety *Really* the Foreman's Job?

Here are reasons why "preventing accidents" should be included in foreman's duties

FOREMAN HAS BIG STAKE in safety because it's harder to maintain the all-important element of morale when fellow workers are injured

By ROBERT CURRIE
National Safety Council

"I CAN'T DO EVERYTHING or be everywhere all the time! I have a job to do getting out production. If I have to horse around with safety, I won't get the work out. Then we'll all be in trouble."

Sound familiar? It does to a lot of people—mostly safety people. No one can quarrel with the foreman who gives everything he has to get out production. This is what he is getting paid for. But . . . and this "but" is most important . . . the foreman is *not* getting out maximum production if the people in his department are having accidents and injuries. It follows that the foreman is not doing his job if such accidents are occurring in his department.

I don't think anyone can think of a single accident or injury that has increased production. In fact, the steps taken to prevent recurrence have resulted in increased production. In too many cases, accidents and injuries result in decreased production arising out of delays, rejections, etc. Fundamentally, it is cheaper—much cheaper—to prevent accidents than it is to pay for them.

The typical duties and responsibilities of most foremen are: (1) Keep work to schedule; (2) maintain equipment; (3) establish work methods and procedures; (4) instruct workers; (5) supervise work; (6) maintain worker morale; (7) control costs; (8) control quality.

The question arises, "should 'preventing accidents' be included?" It would be hard to keep work on schedule with interruptions caused by accidents. It would be hard to maintain worker morale when fellow workers are injured. Costs start piling up here, there, and everywhere due to accidents. Control of quality can be lost because of many factors involved in an accident. Here, then, are sufficient factors to motivate the foreman to give adequate consideration to preventing accidents in his department.

The other duties and responsibilities that have not been included as motivating factors are: (1) Maintaining equipment; (2) establishing work methods and procedures; (3) instructing workers; and (4) supervising work. These are prime *sources* of accidents if not given proper attention by the foreman.

Cure for Foreman's Ulcers

It is obvious that preventing accidents is not a separate and distinct operation from producing a product. If a foreman is to be successful in his primary obligation of getting out production, it is necessary to integrate safety with the four duties listed in the above paragraph. If the foreman gives this important point adequate consideration, he will not experience delays, frustration, and ulcers over accidents. This is the basis for the foreman's safety program . . . and let's face up to it . . . it is *his* program.

If the foreman is doing all the safety work, what does the safety man do? The safety man's job is to plan the whole company safety program and to lend his help to foremen and other management people who are in direct charge of operations. The foreman cannot afford to let the safety man take over safety instruction and safety supervision in his department. If the foreman does allow this, he weakens his own position, both as a production man and as a leader, and the whole job of production and accident prevention will suffer.

The experienced foreman should have little difficulty in discovering most of the safety measures required to eliminate accidents at a source, and in judging their effectiveness. Usually he is accustomed to studying equipment for the purposes of getting more production, reducing "down-time" of machines, developing more efficient ways of doing the job, and training employees for better work performance. The procedure for achieving greater safety is similar.

At each step in an operation the foreman asks, "How can an accident happen here?" He usually can find the answer by observing the actions of an employee in relation to the material, the machine or the tool, as he performs each step in the work.

An employee is usually injured in one of the following ways: (1) A fall; (2) over-exertion; (3) caught in, on or between moving parts; (4) striking against objects; (5) struck by falling or flying objects; (6) contact with injuries forces or substances (as by electricity); (7) inhalation, absorption or swallowing of harmful matter.

When the supervisor notices that one of these types of accidents may occur, as he observes the steps and performance of a job, he considers measures for eliminating the danger and adopts the most effective one. The

(Continued on Page 38)

Chromcraft® SPECIFIES DOT FERRULE GLIDES and K-D FASTENERS for style, strength and staying power

Ease of assembly is yet another major advantage of the carefully designed glides and special-purpose fasteners engineered by DOT for Chromcraft's latest "first" in furniture . . . the handsome and distinctively modern dining-room suite illustrated here.

CHAIR FASTENERS BY DOT enable even unskilled retail sales personnel and completely untrained purchasers to assemble chair backs, seats and frame parts into strong, finished pieces without tools of any kind.

FERRULE GLIDES BY DOT are self-locking with swivel-mounted base of smooth, ultra-durable Marlex* . . . will not mar floor or dig into carpet. Solid rubber insulates the base from the main structure and assures super-silent gliding action by eliminating vibration even when furniture is moved over extremely rough surfaces.

Whether your need is for custom-designed parts or for such semi-standardized devices as DOT glides, Ferrule-Glides, Teenuts† or tubular metal furniture fasteners, our widely experienced engineering staff is ready to go to work on your problems.

*Marlex — trade-mark of Phillips Chemical Co.

†TEENUTS — ® TM of United-Carr Fastener Corporation

FURNITURE DOT FASTENERS

CARR FASTENER COMPANY

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Is Safety Foreman's Job

Continued from Page 36

foreman must give first consideration to eliminating the hazard from the job if at all possible. If he is unable to do this, he then should give consideration to eliminating the unsafe condition by guarding the hazardous point or area. If the unsafe condition cannot be eliminated by a change in design, construction, guarding, or similar means, then there remains but two choices. The first choice is to see that the employee is given adequate training and job instruction and supervision to avoid the hazard. The last resort . . . and in many cases very inadequate . . . the foreman might recommend personal protective equipment such as goggles, hard hats, safety shoes, etc.

A foreman's accident report form is an important and necessary tool which can be used to prevent recurrence of the same injury. The information it contains (see accompanying table) will assist the foreman and his boss to help prevent a similar type of injury. An important item that all should be made aware of is that the purpose of such a report is *not* to place the blame for the injury on the employee, the foreman or management. It should be understood that the purpose of such a report is to prevent a similar injury from happening.

What Foreman's Accident Report Should Cover

The most important items that should be contained in the foreman's accident report are:

1. **Nature of injury.**
2. **Job the employee was doing.**
3. **How employee was injured.**
4. **What employee did unsafely.**
5. **What was defective, in unsafe condition or wrong with the method?**
6. **What safeguards should be used.**
7. **Steps taken to prevent similar injuries.**
8. **Other steps that should be taken to prevent recurrence of accident.**

The attitude of the company toward many things including accident prevention is passed from the management through the foreman to the employee. If the attitudes are poor ones, then you might expect poor performance. If they are good ones, then good performance follows.

It is up to management to provide a safe place in which to work—which limits unsafe conditions. It is up to the foreman to establish job procedures, training and supervision which eliminates unsafe acts. If each does his part, accidents and injuries on the job will be at a minimum.

National Forest Products Week

Continued from Page 32

N.L.M.A. Board of Directors and the National Wood Council.

Nine sections of the Forest Products Research Society built their fall meetings around National Forest Products Week. The National Institute of Wood Kitchen Cabinet Manufacturers held its annual meeting during N.F.P.W. The Greater New York Lumber Industries, Inc., one of many cooperating groups, sent "Sales Promotion Opportunities" bulletins to all of its lumber and wood products distributor members.

All Seattle, Wash., residents were made fully aware of N.F.P.W. at noon on Sunday, October 16, when steam whistles around the waterfront sounded off. All Seattle radio and TV stations, civil defense, police and fire departments responded to the inevitable avalanche of telephone calls with mention of the fact that this was Seattle's way of beginning the nation's first Forest Products Week.

Thousands of pieces of literature selling the benefits of wood products were distributed to civic luncheons, do-it-yourself clinics, high schools, elementary schools, service clubs, and at meetings sponsored by industrymen. The N.W.P.P. book, "Livability Unlimited," was used as the basis for an essay contest among grade school children in New York State and as part of planned programs all over the nation. As one example of help given under the National Wood Promotion

ANNOUNCING . . .

TWO MAJOR ADVANCEMENTS IN AIRLESS HYDRA-SPRAY EQUIPMENT

1 NEW GRACO HYDRA-SPRAY "GOLDEN" GUN

This lightweight gun features a new principle in trigger design that makes it equally efficient for high volume fine finishing or protective coating work. A light trigger pull creates an immediate, precise spray pattern with no lag to cause leaks or spitting.

Paint hose attachment is another exclusive feature on Graco's cold airless spray gun. The single hose enters the gun handle with a special swivel attachment. This design improves gun balance and gives the operator more freedom with less fatigue.

- Lighter than air spray guns
- Swivel hose attachment at handle
- Light trigger action
- Immersed needle . . . no leaks
- Controlled volume . . . no spitting
- Tungsten Carbide valve and seat

NOW—AIRLESS SPRAY ECONOMIES FOR FINE FINISHING WORK

2 NEW GRACO "FF" FINE FINISH TIPS

Total atomization of paint is now accomplished inside the spray tip. The new tips have a double action . . . First, the inner tip creates the usual round spray pattern . . . Then, the outer tip, through further atomization, forms the final, diamond-like pattern shown at right.

The "FF" pattern makes it possible to apply an even-mil thickness suitable for precise final finishes on furniture, appliances, automobiles and similar products. *You have airless spray economies for fine finishing work.*

- Total atomization—no tails
- Wide range of tip sizes
- Excellent lapping pattern
- Even mil thicknesses
- Wide range of viscosities
- Tungsten Carbide orifices

GRACO HYDRA-Spray

GRAY COMPANY, INC. • ENGINEERS AND MANUFACTURERS
1227 Graco Square, Minneapolis 13, Minn.
(See Phone Book Yellow Pages, Spraying, for Graco Suppliers)

Program, a special slide presentation showing outstanding uses of wood in homes, schools and churches was staged in Los Angeles.

The U. S. Departments of Agriculture and Commerce cooperated in the Week, as did American Forest Products Industries, Inc., the Society of American Foresters, the American Forestry Assn. and many more organizations. Deserving of congratulations on a truly impressive and spectacular promotion were all foresters, lumber dealers, wholesalers, manufacturers, salesmen and others in the industry who participated in the planning, organization and activation of N.F.P.W.

By the middle of the Week, when the life of the material for that use had expired for all practical purposes, more than 180 editors all over the United States had requested the complete kit of photos and news stories issued by the National Lumber Mfrs. Assn. Another 50 editors had asked service on a total of 686 individual releases. Thus more than 200 editors went to the trouble of asking for National Forest Products Week material, leading to the conclusion that the use factor was high. More than 200 magazine editors were serviced with complete kits simultaneous with the mailing to daily newspaper editors.

Syndicated News Coverage

On October 16, the opening day, a nationally syndicated Sunday newspaper supplement, carried a double impact item on the Week and the importance of America's forests and their products to more than 13 million homes throughout the country.

On his NBC-TV network show, Dave Garroway repeatedly mentioned National Forest Products Week. In addition, the Week was emphasized in a 10 min. segment devoted to the Future Farmers of America and their tree-farming program.

Summing up the Week's activities in his report to the National Wood Council, Coordinator Jack Berry gave major credit for success of the event, originally advocated as a "grass roots" activity, to cooperative local action.

"A basic objective of the program," he said, "was to encourage cooperative local action everywhere possible. In many areas this was achieved through initiative of Hoo-Hoo Clubs, state and provincial chairmen, local wood promotion organizations, and other forest products groups.

"The program in Portland, Ore., was one of cooperative action of Hoo-Hoo and the Society of American Foresters. In Louisville, Ky., a cooperative program was developed by the state chairman.

"A most outstanding example of such organization was that of the Los Angeles Committee for National Forest Products Week. This committee was composed of local leaders broadly representative of all segments of the industry. A fund was raised, a public relations firm retained, frequent planning meetings held, and a very well organized program launched which included wood promotion displays throughout the city, distribution of 10,000 N.F.P.W. banners, news coverage, and a civic luncheon for architects, builders and other city leaders."

OKLAHOMA Lumbermen's Assn. annual convention launched N.F.P.W. in Oklahoma City. Shown at Hoo-Hoo booth are: (left to right) Joel Peek, Prestridge Lumber Co. and state chairman; Frank Langley, Jr., member of Supreme 9; and Carl D. Hadlock state deputy snark

CUT SANDING COSTS

WITH THE

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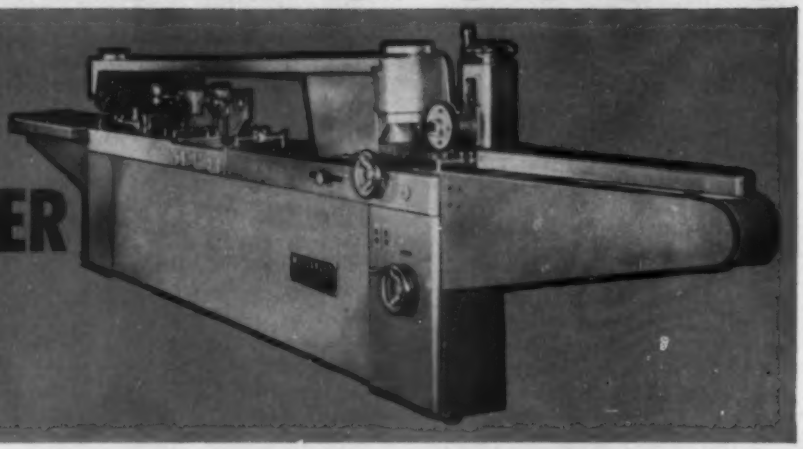
MODEL 100



...and the revolutionary new BLOCMOLD KIT

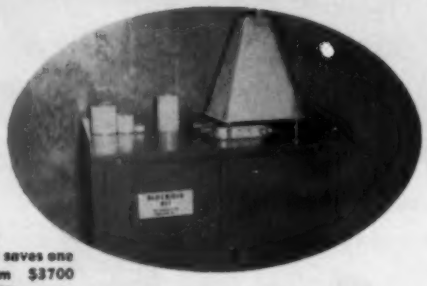
(One user reports saving of $3700 per year over old method!)

Here's a new, inexpensive way to make form blocks for your mould sanding operations. It saves time and frees valuable labor for other productive work.

Makes perfectly formed plastic-steel blocks that outwear conventional block materials many times over. Insures better, more uniform sanding results. Substantially lengthens belt life because the new form blocks fit perfectly, have built-in belt clearance, and require less pressure in sanding.

And remember—you save big money with the new BLOCMOLD KIT!

Complete information available upon request.



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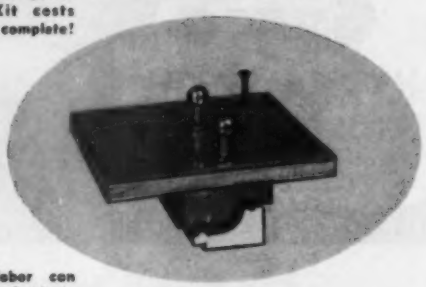

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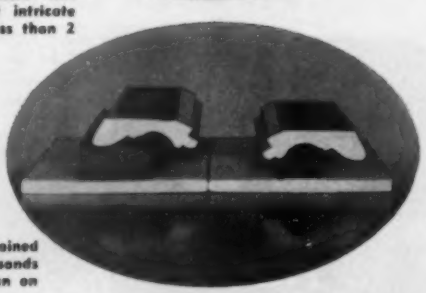
Unskilled labor can make most intricate forms in less than 2 hours.



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Serving the Industry Since 1852

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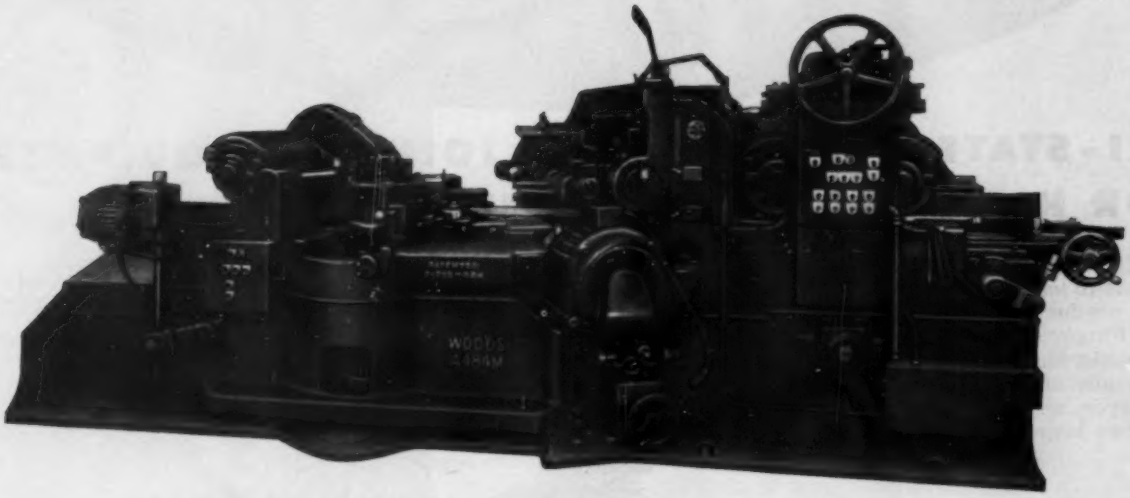
A-484M DIAGONAL PLANER and MATCHER



Upgrading of all stock, with astonishing improvement in finish on the lower grades now made possible with this revolutionary DIAGONAL PLANER and MATCHER.

DISTINCTIVE FEATURES

- ★ **Elimination of sniped ends.**
- ★ **Smoother finish around knots and cross grain, with less tendency to loosen knots.**
- ★ **Continuous support of stock on bed plate before and after cut on bottom head.**
- ★ **Less lead required in guide as angle cutterhead serves to hold stock against the guide fence, preventing side friction, feed roll wear and edge sniping.**
- ★ **Less power consumption in feeding stock.**
- ★ **All operating adjustments can be made from the front or working side of machine.**
- ★ **Wide face helical gears for feed works, assuring continuous tooth mesh and quieter operation.**
- ★ **Independent quick green stock lift for first bottom feed-in rolls.**
- ★ **Bottom head cylinder can be pulled out for changing knives without disassembling motor.**
- ★ **Individual ball bearing housings for all cutting units.**
- ★ **All ball and roller bearings housed in dustproof housings. Grease lubricants for roll bearings. Regulated wick oil feeders used on all cutting units. Forced feed lubrication for feed gears.**

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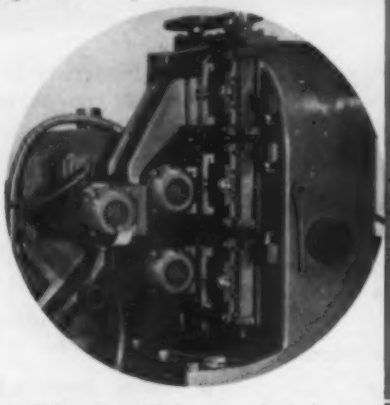
TRI-STATE OFFERS FINGER JOINTING EQUIPMENT FOR HIGH PRODUCTION AND ACCURACY

200 LINEAL FEET PER MINUTE of finger jointed, assembled and cut to length solid clear lumber. Above photo shows typically high production installation using INDUSTRIAL Model 3470 Dual Finger Joint Shaper (equipped with Scoring Saws), and two Assembly Machines. Short stock is brought to Shaper operator by means of Bunk Chain Conveyor, Chain Tilt Lift, Spreader Conveyor, and Cross Feeder Conveyor. Three machine operators and two bearers required for complete set up.

Industrial continues to lead in Finger Jointing Machinery... NOW Scoring Saws for More Accurate Machining of Joints

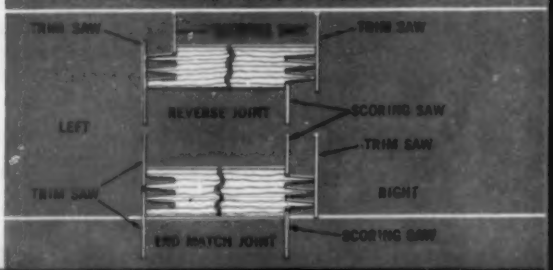


FLASH!
FHA NOW APPROVES FINGER JOINTED STUDS
★
TRI-STATE equipment makes such studs from rough or surfaced stock.

Above photo shows Scoring Saws and Trim Saw Units as adapted to INDUSTRIAL Nos. 3496 and 3470 Finger Joint Shapers. Motors are 3 H.P., precision balanced, and are adjustable both vertically and horizontally. Precision engineered to cut the most accurate joint obtainable. Available as optional equipment.

See drawing at right. Scoring Saws are used to saw the shoulder cut ahead of the cutterheads on face sides of the stock. Due to splintery characteristics of some types of lumber, such as fir and cedar, it is often desirable and necessary to use Scoring Saws to eliminate tear out. A perfectly matched finger joint results.

TYPICAL SCORING AND TRIM SAW APPLICATION



Manufactured by: **INDUSTRIAL WOODWORKING MACH. CO.,** *Garland, Texas*

TRI-STATE
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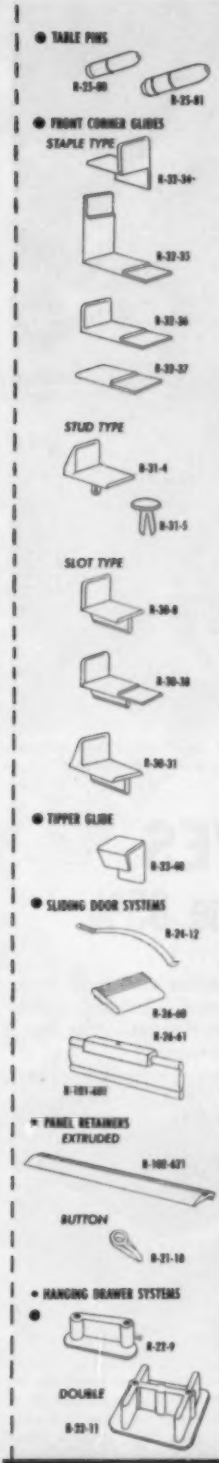
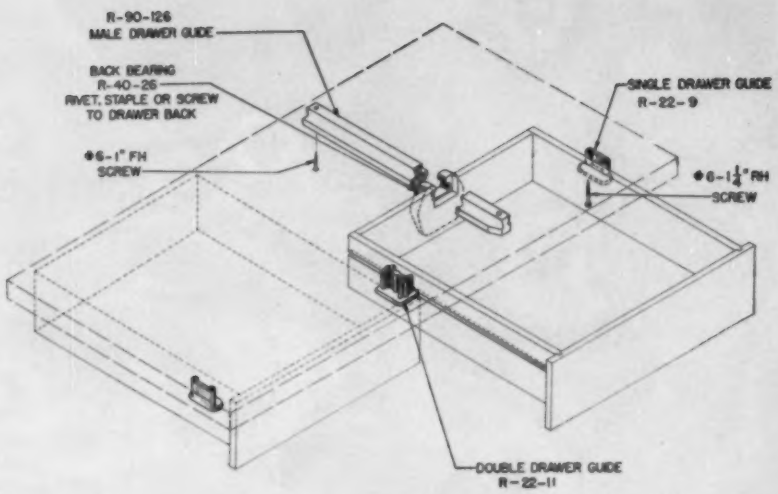
2231 Valdina • Dallas 7, Texas • Tel. RI 7-3235



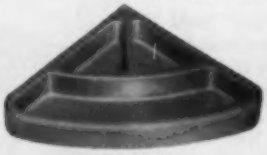


RONTHOR HANGING DRAWER SYSTEM

A remarkable and exclusive Ronthor system for suspending a drawer from panel or frame top without the use of framing or apron members . . . especially applicable for occasional tables or desks. As illustrated it operates smoothly and efficiently on the 3-point suspension principle.

Ronthor efficiency products engineered for the cabinet and furniture industries include a versatile selection of 3-point suspension drawer guiding systems, self-lubricating drawer glides, leg glides, sliding door glides, table pins, panel retainers and utility trays. Each has been precision-made for easy, economical installation and lifetime efficiency.

Address inquiries to RONTHOR REISS CORP., Industrial Products Division, Dept. WW-1, 111 Fourth Avenue, New York 3, New York


RONTHOR TRAY R-11-83

RONTHOR TRAY R-11-86

RONTHOR TRAY R-11-89

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WOOD AND METAL CENTER GUIDES WITH SELF-LUBRICATING BACK BEARINGS

METAL TO WOOD GUIDE

RONTHOR

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FIRM _____

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◀ Use Reader Service Coupon on Page 163. ▲

Kennametal hard carbide knives up production and cut costs of planing Cultured Wood, developed for furniture making by Kroehler Manufacturing Company. Although made entirely of wood, this basic new material has machining and moisture resistant qualities similar to metals.

KENNAMETAL* PLANER KNIVES

boost hourly production 250%—reduce down time 85%

When Kroehler put Cultured Wood into their regular manufacturing operations, they found that it responded to machine tooling in the same way as other high grade furniture woods—such as maple, oak and walnut. It gave a clean, sharp edge and held close tolerances. Kroehler decided that this new product justified the use of the finest cutting tools.

Based on long experience in the use of carbide tooling for saws, Kroehler thought that carbides could be equally effective for their planer knives. So they started a development program with Kennametal Inc. And here are the results, as proved by actual production runs.

Tests were run on a Greenlee No. 120 double surfacer having six knife round heads. Knives were 36¼" x 1¼" x 5/32". Feed speed of 60 feet per minute produced 30 knife marks per inch.

Alternately planing Cultured Wood and northern black walnut, high speed steel knives were used for a run of 7,640 lineal feet. Down time totaled 23 hours for 20 hours of operating time.

Under the same conditions, Kennametal solid tungsten carbide planer knives were used in a run of 303,582 lineal feet. Down time was reduced to 88 hours in 287 hours of operating time.

"To put it another way," said Torbin F. Yates, Kroehler's Director of Research, "we had 382 feet per hour with high speed steel knives and 1,057 feet per hour with our carbide knives. Or, from the manpower standpoint, we reduced our down time from 115% to 30% for operating time."

This outstanding performance resulted in the adoption of Kennametal tungsten carbide planer knives throughout the company's entire case goods operation.

Kennametal carbide knives may prove the answer to a production cost problem in your plant. You can get full information and help from your Kennametal Carbide Engineer—or write to KENNAMETAL INC., Latrobe, Pennsylvania.

Cultured Wood—Kroehler's new, moisture resistant, basic furniture making material is made of wood. Prevents warping, swelling and cracking of furniture. Used as core stock under decorative veneers and as high density hardboard for backs of chests, drawers, mirrors, drawer bottoms and dust panels.

*Trademark

9-7270

INDUSTRY AND KENNAMETAL ...Partners in Progress

WOOD & WOOD PRODUCTS

PROGRESS REPORT:

BOARD and PANEL PRODUCTS

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VENEERS AND PLYWOOD SECTION

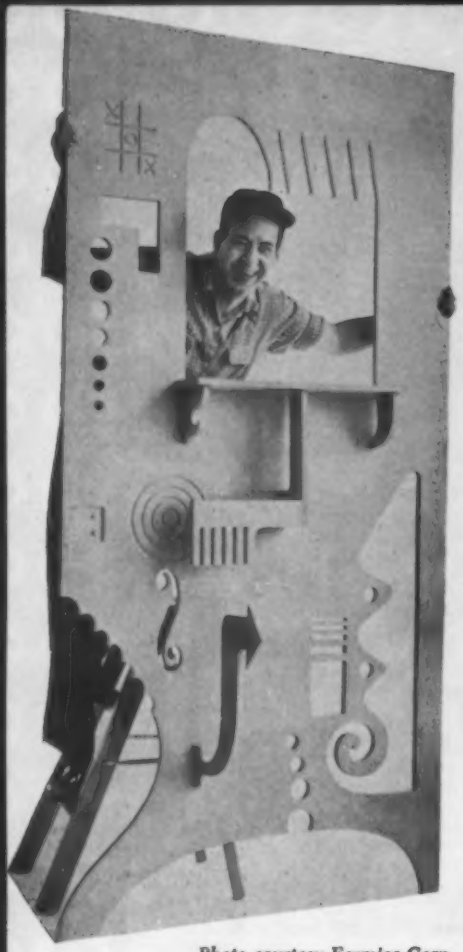


Photo courtesy Formica Corp.

Let's Take a Look at Board and Panel Products Today

Fast-moving producers strive for product improvement, new lines, practical standards—Competition severe, imports a challenge—New finishing developments exciting —Plant modernization, profitable waste utilization on uptrend— Many new mills recently opened or in work

By J. F. KOELLISCH, Editor

FACING THE CHALLENGE of continuing substantial growth in the years ahead, board and panel producers are daily making exciting news as they strive for product improvement and expansion into many new fields of application.

In hardboard you see a big drive, in conjunction with the industry's "Plus Values" campaign, for a broader line of special products, new finishes and increased customer services, plus an important trend toward fabrication of more end products.

In particle board, still suffering from the growing pains of a relatively new industry, there is heavy concentration on improvement of product quality, development of new products, and an intensive effort to formulate practical industry standards.

In plywood, competition is severe, and the industry's best minds are joined in the search for new uses, new products, better finishes and, in the case of hardwood plywood, a workable answer to the problem of foreign competition.

A trend worth watching in this respect is the increased percentage of imported *prefinished* plywood. "We anticipate," says one U.S. firm, "many of the world's fine hardwoods, including our own domestic walnut, being brought in from other countries as wall paneling. This will certainly be more competitive than our own products, unless we follow suit, because of the very thin face veneer foreign markets are using to overlay cheap lauan plywood or similar material."

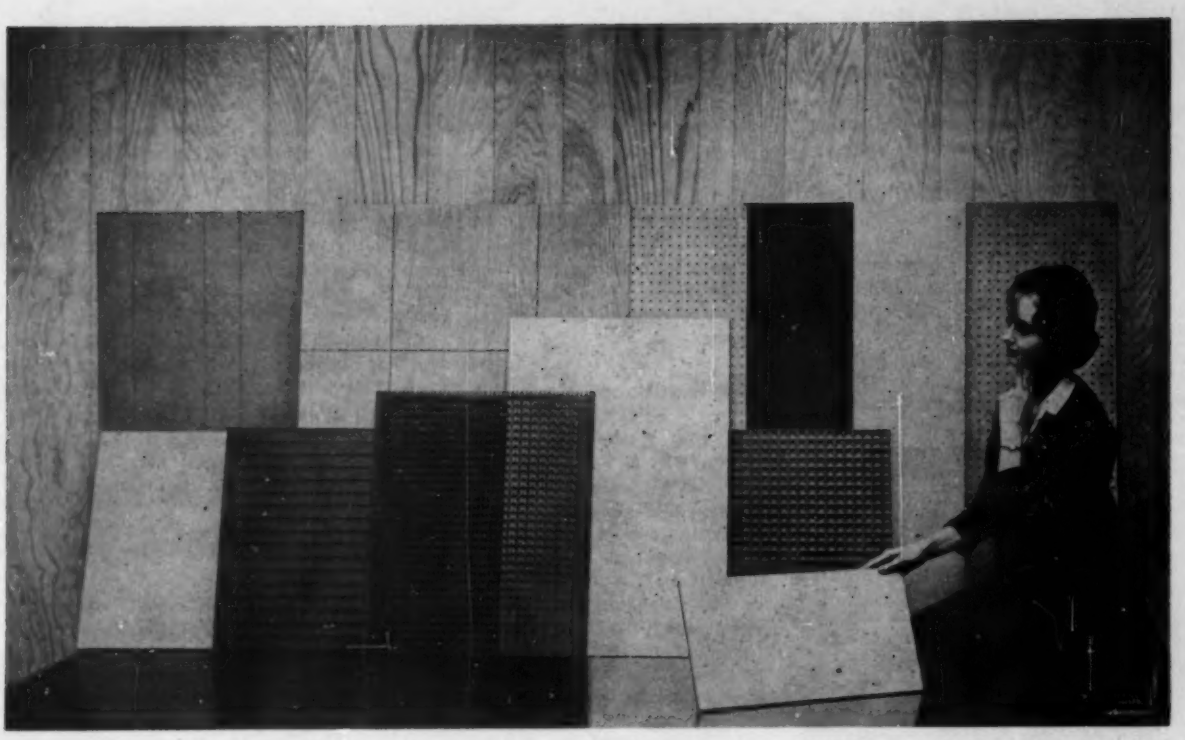
In all segments of the field, better marketing techniques as well as modernization of existing facilities for more efficient, less costly production of quality products are major objectives of key producers. Conversion of waste into salable by-products and reusable material is catching on, too. Despite the slowdown in home building activity, during the past year numerous new plants have been opened, put into construction, or launched on their way through the planning process.

Exciting news from Europe points to the strong possibility that before very long there will be on this side of the Atlantic, as well as over there, many operations engaged in molding particle board into complete finished products, in a variety of shapes and forms. And there is bound to be an increase in the number of producers or fabricators supplying formed hardboard and curved plywood as the demand for these and other special products grows.

Many producers who started out with but one product a few years ago and experienced their full share of headaches are now offering diversified lines designed to meet almost any market demand. For example, from one company you can now get either a 100% shavings board, a 100% flakeboard, or a blended flakes-shavings board. Prefilled boards, exterior boards, and an increasing range of board sizes are now available.

One producer is now turning out veneered particle board panels and cupboard doors, lumber-banded furni-

FABRIC laminates suggest new design possibilities utilizing wood veneers, particle board or hardboard



VARIETY of new hardboard designs and patterns displayed against attractive plywood-paneled background

ture panels, and fluted cores railed, lock-blocked and cross-banded to the buyer's specifications. Another now offers a treated insect-repellent board.

A captive particle board plant operator in the furniture field reports recent successful tests with a 3-ply construction in the initial forming of the board with 1/28 in. veneer face and back. "We have by a new method," he states, "been able to accurately form the board to a variation of less than 1/32 in. in thickness."

Among western plywood producers the accent today is on technical development work which has resulted in the recent introduction of several promising new products. Included is tongue-and-grooved 2-4-1, a specially milled joint engineered to tight tolerances for 1⅛ in. panels functioning as a single-layer combined subfloor and underlayment. The panels permit utilization of lower cost softwood inner plies with fir faces and are designed for use in floors with girders or supports on 4 ft. centers.

Another recent idea, called Insta-Floor, is a ⅜ in. plywood subfloor panel preframed with 2x4s which substantially reduces on-site construction time. Still another is a delta frame (a box beam "A" frame unit with cantilevered wings) which the engineering research division of Douglas Fir Plywood Assn. believes will provide basic roof support for larger commercial and industrial structures.

PLYWOOD research has developed new delta frame with cantilevered wings for many commercial, industrial structures

From the same source comes news of the development of specifications for softwood sheathing panels other than fir which can be sold interchangeably with fir and on a price parity with the basic products.

In the hopper is the development of panel specifications permitting use of heavy white pocket under controlled conditions for an engineered underlayment panel and a special farm construction panel without sacrificing quality in the overall grade mix.

Also under investigation are neoprene and plastic-base coatings that will add durability to plywood surfaces. The D.F.P.A. believes it eventually may be possible to market a prefinished plywood siding panel more durable than some porcelainized surfaces now used on light metals.

An automatic patching machine now being tested is expected to upgrade lower quality veneer by producing a solid surface with a plastic filler.

Some of the most interesting new developments in the finishing of wood products have occurred during the past year in the board and panel field, and others are expected for the near future. Particle boards are being filled by new, more dependable methods, boards are being veneered as well as plastic-overlaid. The variety of finishes, textures and special effects is increasing rapidly among hardboard, particle board and plywood producers.

Lumber mills, too, are becoming active in this field as they end-and-edge glue shorts and narrow boards into panels and then apply overlays.

In the field of panel finishing, a wood-grained surface has been applied to flakeboard in a new polyester-laminated product being offered to manufacturers of furniture, kitchen cabinets, store fixtures and paneling.

The same thermoplastic polyester film, with a companion coating from the same polymer family and without adhesives, is being laminated under heat and pressure to natural wood or wood composition materials. It can be reverse-printed and embossed in the

laminating process for decorative effects. It is claimed that particle board can be fitted, sanded, roller-grained and surfaced in one continuous operation, and that inexpensive plywood can be upgraded to simulate more expensive woods.

Another exciting finishing development is a system involving overlay and decorative papers impregnated with a diallyl phthalate resin. Not only is it used to laminate plastic surfaces on natural wood veneers and on hardboard and particle board, but it also is the heart of a new fabric laminating technique which suggests a variety of decorative treatments for furniture and panelboard. The ingredients of such a fabric laminate include a glassine separator, phenolic-impregnated paper balance sheets, core material, white decorative paper, impregnated fabric and overlay paper.

From the Fine Hardwoods Association in recent months has come the announcement of "Finishield," a new development which combines an adhesive-coated aluminum foil beneath face veneer and a polyester or epoxy finish. It produces a wood surface highly resistant to abrasion, cigarette burns and surface stains while retaining the natural wood's true color and grain. The versatile foil featured in this system can be bonded to lumber, plywood, hardboard, particle boards and impregnated kraft paper. It is receiving considerable attention especially in the furniture and plywood fields.

One of the most interesting developments of the past year in what is basically a panel product has been the introduction of a durable floor tile made of hardwood veneers with aluminum foil, a felt base and a protective vinyl coating. Laid up in conventional-size panels which are cut into 7x9 in. units, the new wood floor tiles pricewise compete favorably with plastic and other composition flooring materials.

Some of the new products and developments announced by board and panel producers in recent months are briefly reported in the following paragraphs.

New Hardboard Products

Abitibi Corp. Laminated Plateboards, S1S or S2S hardboards, have been introduced for cabinet doors, furniture, table tops, displays and other applications. Both standard and tempered types may be laminated up to 5-ply. Glue line is non-abrasive and water-resistant. A second recent development is Fil-Coat, a surface-filling treatment, on both standard and tempered S2S Plateboard designed to provide a superior hold-out and gloss.

Forest Fiber Products Co. Recently introduced is Thrif-Tone, a 1/4 in. hardboard panel designed for interior walls. This product has a tempered, light smoke grey prefinished color and is available in two designs: Random Plank (a 4 x 8 ft. panel), and Tee-N-Gee (a 16 x 96 in. panel) with a tongue and groove surface. Also available in punched surface with 9/32 in. holes on 1 in. centers.

Masonite Corp. Completely hidden joints are a feature of Sunline hardboard siding, a 4 ft. wide panel with 8 in. rib spacing in lengths of 8, 9 and 10 ft. Joints fall adjacent to ribs and are shiplapped to provide a weathertight joint. Inside corners of the ribs have a small fillet, while outside corners are slightly rounded to give a neat appearance. Panels are 5/16 in. thick with 1/2 in. thickness at the ribs, raising them 3/16 in. above surface of board. Each rib is 2 in. wide to create a strong vertical treatment for wall sections, gable ends or accent areas.

Weyerhaeuser Co., Silvatek Div. New in the hardboard line is prime-coated Weytex, a resin-base prime coated board for use as exterior siding.

Particle Board Developments

Clear Fir Products Co. Cleartex, a high-density 1/4 in. flakeboard, is designed primarily for use as wall paneling. Available in Sand-Drift, with a wood-grain pattern deeply embossed in fiber surface finish; Standard, with a hardboard-type surface finish; and Classic, offered with a variety of veneer overlay faces.

Dexon Products Div., Igelstroem-Oberlin Co. A wood-grain surfaced flakeboard, laminated with Videne, has been made available in four grains —cherry, walnut, birch and ash—for furniture, kitchen cabinet, store fixture and paneling applications.

Formica Corp., Sub. American Cyanamid Co. Formica Flakeboard, an underlayment material for laminated plastics, has been made available in a balanced, three-layer construction which includes an inner layer of uniformly bonded flakes and outer layers of smooth wood fines. Lengths range from 5 to 12 ft., widths from 2 to 4 ft., and thicknesses from 3/8 to 3/4 in.

Long-Bell Div., International Paper Co. Ven-O-Wood, Flakewood and Flakewall lines have been expanded to include thick low-density boards. The company has also added thin high-density and thick low-density boards to its industrial line. Thicknesses range from 3/8 in. to 3/4 in. in the thick boards and from 3/32 in. to 3/8 in. in the thin line. Both thick and thin boards are available as standard, fines-overlaid and fiber-overlaid panels.

Pacqua Div., Pacific Plywood Co. Bad news for insects and fungus in this company's line of insect-repellent IRB particle boards, integrally treated with chemicals throughout entire product thickness. Available in Par-

(Continued on Page 132)

"BLISTER BOX" provides vital data on effects of moisture vapor transmission through new prime-coated hardboard at Weyerhaeuser Co.'s laboratory in Longview, Wash.

Industry Leaders Discuss Board and Panel Outlook

Activities highlight new product developments, technical research, strong promotion and industry standards for progress in 60's

How Fir Plywood Works to Cure "Growing Pains"

By W. E. DIFFORD
Douglas Fir Plywood Association

WESTERN FIR PLYWOOD has been growing faster than the rest of the economy. It has multiplied sales three times since 1950 and has doubled sales in the past six years.

However, it is becoming obvious that with this enormously expanding base total volume will continue to increase but the rate of growth will probably slow somewhat.

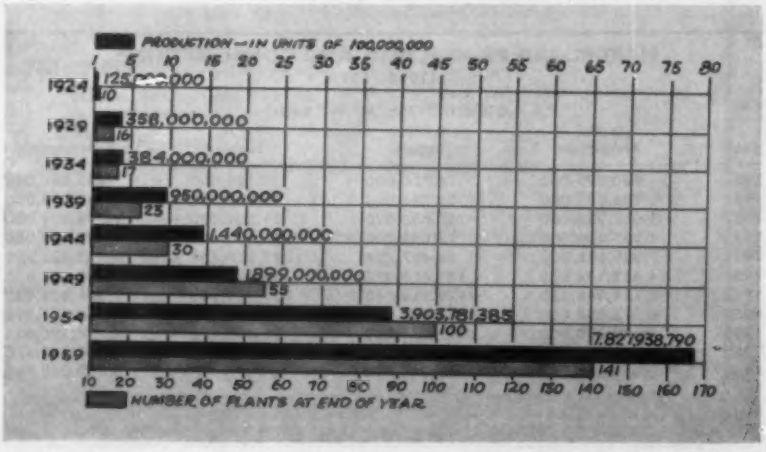
Temporarily soft markets in 1960 have given producers rough sledding. Nevertheless, sales are continuing to increase. Although housing, which takes the lion's share of the industry's output, is down by as much as 20%, plywood sales were up by 3.7% for the first nine months of the year.

Soft markets are the direct result of the buildup of production capacity in recent years. This has outpaced total demand, even though plywood markets are broadening. Production in 1959 was 7.8 billion sq. ft. This year it will be about 8.1 billion sq. ft. However, capacity will reach 9.2 billion sq. ft. by the end of the year and may reach 10 billion in 1961.

Part of the answer to the problems created by these conditions lies in sharpening the industry's cooperative program aimed at increasing sales.

Two recent developments are good examples of what can be done in this area. D.F.P.A. developed a new tongue-and-groove joint for 2.4.1 which has caught on fast with builders. Another approach to floor construction involves a preframed 5/8 in. panel for supports on 4 ft. centers.

Plywood's potential in siding has never been fully realized because of difficulties in getting a good paint finish. Research work is uncovering new plastic finishes for plywood which promise to be maintenance-free for the life of the panel. Meanwhile, we are developing new building systems to provide components and this may be the area of greatest expansion for plywood in forthcoming years.



GRAPH SHOWS softwood plywood production compared with total number of mills

How H.P.I. Fights Import Menace

By CLARK E. McDONALD
Hardwood Plywood Institute

CHAOTIC CONDITIONS existing in the American hardwood plywood market due to the uncontrolled flow of imports into the United States is one of the major problems facing the industry. The Hardwood Plywood Institute has repeatedly stated that the problem of hardwood plywood imports was one which would injure ultimately all the segments of our market.

In the past year, excessive imports of plywood have created an oversupply condition, resulting in a sharp decline of imported plywood prices. Many users, dealers, and wholesalers were caught with inventories of higher priced imports.

Where Hardwood Plywood Is Sold

Type of Sales Outlet	Quantity Sold
Distributors and dealers	40.8%
Industrial consumers and fabricators.	
Furniture manufacturers	29.0%
Door manufacturers	14.8%
Cabinet manufacturers (radio, TV, sewing machine, utility and kitchen cabinets)	10.0%
Others (producers of luggage, trailers, novelties, toys, flooring, aircraft, boats, etc.)	5.4%
	100%

The import problem requires the best thinking and co-ordinated efforts of the entire industry.

In 1959, the market supply of veneer core hardwood plywood was 2,245,000,000 sq. ft., of which 59% was imported. In the 2nd quarter of 1960, the veneer core domestic shipments were 16,000,000 sq. ft. less than the first quarter of 1960. Information received from domestic producers indicates that third quarter business was down from the second quarter, and prospects for the balance of 1960 were not encouraging.

The H.P.I. has continued its growth in 1960 with a 9% membership gain to include 57 hardwood plywood manufacturers in the U. S. and Canada.

An important new technical activity

of H.P.I. in 1960 was revision of CS35-56, the Commercial Standard for Hardwood Plywood, to include particle board and softwood veneer as core material and to bring hardwood plywood manufacturers, flush door manufacturers, and the hardwood veneer industry together on grade descriptions for all species.

Another important technical activity was promulgation of the first Commercial Standard for Laminated Hardwood Block Flooring.

The two standards are now being circulated to manufacturers and users by the U. S. Department of Commerce, Commodity Standards Division, and will establish a basis for common understanding for all manufacturers, facilitating procurement and use of these products.

H.P.I. expanded its staff in 1960 to include a plant inspector on both the east and west coasts. H.P.I.'s cycle requirements for Type II plywood were increased to 13 compared to the 10 cycle requirement in CS35. Through its rigorous quality control program, the institute assures all who purchase from H.P.I. mills that they are receiving the finest quality hardwood plywood.

In May, 1960, H.P.I. began a "Reminder Advertising" campaign in 11 different magazines. The ads feature the H.P.I. seal—what it is, what it means, and why it is important to the purchaser or specifier. The campaign is reaching architects, builders, wholesalers, retailers, furniture manufacturers, flooring applicators, and other buying influence groups on a consistent, every-month basis.

H.P.I.'s 1961 program will include work on a uniform system of cost accounting for the industry, literature to promote the two new commercial standards, and a sales training manual on hardwood plywood.

Hardboard Meets Growing Markets With New Products

By DONALD LINVILLE

American Hardboard Association

DESPITE A 30% DOWNTURN in new home starts during 1960, indications are that hardboard shipments during the year will be the second highest in the industry's history. Based upon present projections, 1960 domestic production will be off only 5% from the all-time record rate set in 1959.

The current year's record points up the growing importance of home improvement and modernization markets. Considering that some authorities now rate this market at about $11.3 billion, or two-thirds that of new home construction, it is apparent that modernization will take an ever larger segment of hardboard production in the '60s.

Not only will more money be spent for home improvement, but a wide array of newly introduced and soon-to-be-introduced hardboard products will find a growing acceptance. And these new and existing products will be used in a growing variety of ways, capitalizing on the famed versatility inherent in hardboard.

This pattern—growing markets existing and new products meeting wider acceptance, and a greater variety of applications—sums up the outlook for hardboard in the decade ahead. It will, I believe, be equally applicable to furniture manufacturing, commercial buildings, school construction, display, and other industries which are major hardboard users.

This growth will be spurred by the hardboard industry's major emphasis on research and development of specific products for specific end-uses—for example, panels with special moisture-resistant qualities for exterior house siding.

Such developments should contribute to a production rate of approximately 2 billion sq. ft. in 1961. Equaling the industry's 1959 peak, this should herald a steady climb during the next decade. The housing market, new starts and improvement, takes about half of total hardboard production at present and will probably continue to utilize 50% of the expanded production.

In the industrial field, prospects are bright for greater use of specialty sheets and products obtainable only from U. S. manufacturers. Factory-finished panels, embossed products and overlays are examples, and more innovations are on the way.

Particle Board Seminar Considers New Standards

"INDUSTRY REPRESENTATIVES should establish standards and then comply with them if they want FHA acceptance for their products," Donald J. Guthridge, Chief, Property Requirements Section, FHA, told members of a particle board seminar at the Forest Products Laboratory in Madison, November 2-3. The seminar, sponsored jointly by the National Particle Board Assn.'s Technical Committee and the Laboratory, evaluated research results and discussed current problems relating to the development of exterior-type particle board.

To bring about a better understanding of problems involved, Bruce G. Heebink, Forest Products Laboratory engineer, described the yardsticks used to evaluate particle board for various exterior applications.

Particle Board Standards Include Interior, Exterior Applications

NEW STANDARDS outline specifications for specific interior and exterior particle board applications. Adopted by the West Coast Particle Board Assn. and submitted to appropriate government agencies for recognition, the first particle board standards spell out manufacturing details for boards to be used as underlayment under resilient floor coverings and for use in exposed exterior constructions.

Member mills are complying with the standards—copies of which are available from the association secretary, Box 78, Dillard, Ore. Standards for other specified end uses are being prepared.

HARDBOARD PRODUCTION AND CONSUMPTION*
(1950-1959)

	QUANTITY (Sq. Ft. 1/8" Basis)			
Year	U. S. Production	Imports	Exports	U. S. Consumption
1950	950,899,000	14,750,000	20,180,000	945,469,000
1951	956,801,000	55,755,000	22,003,000	990,553,000
1952	1,067,262,000	47,653,000	21,301,000	1,093,614,000
1953	1,165,866,000	73,625,000	15,802,000	1,223,689,000
1954	1,239,648,000	66,497,728	13,512,357	1,292,633,371
1955	1,412,154,660	105,815,076	16,898,921	1,501,070,815
1956	1,439,949,330	149,923,040	17,959,945	1,571,912,425
1957	1,516,058,660	161,940,008	17,817,342	1,660,181,398
1958	1,640,000,000	153,077,809	16,487,178	1,776,590,631
1959	2,154,666,666	281,571,522	15,285,818	2,420,952,370
1960**	2,050,000,000	259,050,000	*(Not available)*	2,309,050,000

*Figures for years 1950-1953 taken from U. S. Tariff Commission Report on Hardboard, March, 1955, p. 34. Figures for years 1954-1959 obtained from Forest Products Division, B. D. S. A., U. S. Department of Commerce.
** Preliminary estimate.

FOUR ANSWERS TO YOUR LAMINATING PROBLEMS

We've taken your production problems . . . and designed machines to answer those problems. In hundreds of progressive plants throughout the world, the four presses shown here are the basis for modern production techniques in moderate pressure bonding operations. Perhaps one of these job-engineered presses will answer your laminating problem. The specific product bulletins will give you more detailed information. Write for them today!

AIR HOSE LAMINATING PRESS—BULLETIN 11-D

For cost-conscious manufacturers—a high production press for moderate pressure bonding with vinyl and other adhesives. Platen size 30″ x 30″ to 62″ x 120″.

ROTARY PRESS—BULLETIN 11-C

The ideal press to laminate dissimilar plies when bonding with *rubber base instant contact bond adhesive*. Roll widths to 134″; pressing speeds 10 to 60 FPM; Max. pressure 12,000 lbs.

MOTORIZED LAMINATING PRESS—BULLETIN 11-E

A rugged and dependable laminating press for use with all kinds of cold glue. It's especially popular for laminating composition board, flush doors and plastic laminates and can be used with or without retaining clamps. Capacities 36″ x 36″ to 48″ x 120″.

HYDRAULIC LAMINATING PRESS—BULLETIN 11-P

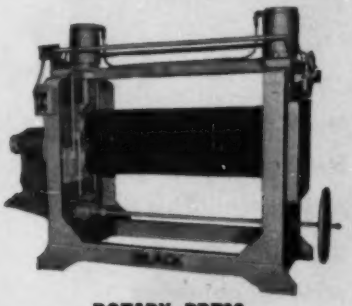
Preferred for laboratory, experimental and light production work. Standard sizes from 1 to 12 sq. ft. Pressures to 100 tons.

THE BLACK BROTHERS COMPANY, INC.

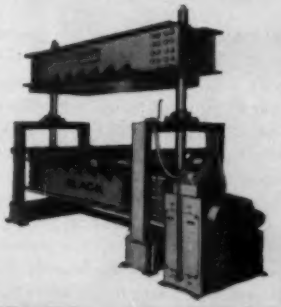
MENDOTA 5, ILLINOIS

BLACK BROTHERS COLD PRESSES

AIR HOSE LAMINATING PRESS



ROTARY PRESS



MOTORIZED LAMINATING PRESS

HYDRAULIC LAMINATING PRESS

What Do Users Want from Board Producers?

Much progress admitted, but big buyers, actual and potential, seek greater stability, wider adaptability

ASK THE INDUSTRIAL USER of board products in various segments of the wood field what he wants from the producer and you get some interesting replies. In most cases, there seems to be evidence that potential volume users, while admitting that board producers have made great progress in product improvement, are not yet fully sold on the stability and adaptability of the various types of boards for more general application. In virtually all cases where doubt is expressed, the door is left open for convincing board product presentations.

In an effort to serve the whole industry by contributing toward a better understanding between producers and users, WOOD & WOOD PRODUCTS presents here a roundup, in brief, of the observations offered by representative users, actual and potential.

Furniture.—"We are using both flake and particle boards, made to our specifications for limited use until we are certain they will be better than lumber core. At present both products satisfy us, but we are always looking for stability.

"Regarding hardboard, these people have come a long way in a short time toward a good product for bonding as well as open usage, but the problems until now have been curling, adhesion difficulties, etc. Here again, stability or flatness and resistance to moisture are the principal difficulties.

"Plywood panels are made in our own plant and we have very little trouble with veneered stock.

"I think in all these fields the greatest research has been accomplished, but the finishing touches and corrections will come in the next six months or a year, so that general application will be possible throughout the industry."—*J. L. Metz, president, J. L. Metz Furniture Co., Inc., Hammond, Ind.*

"In the manufacture of higher grade bedroom and dining room furniture, we have used very little particle board. The only time it has been used in any of our suites is when the core can be framed in and concealed. We would not consider a particle board edge exposed in keeping with good furniture. We construct our suites exclusively with 5-ply laminated panels in walnut, mahogany or cherry."—*E. B. Miller, executive vice-president and manager, Red Lion Table Co., Inc., Red Lion, Pa.*

Millwork.—"In the board industry today we have companies running backlogs on their production. We have companies buying operations on a turnkey' basis for production of a specific board. I am afraid that in most areas the scramble is to get an account, not to improve the product. Undoubtedly, the next progressive, most forward step will come from someone not currently involved in board manufacture.

Challenges Current Thinking

"Someone, I think, who is alert enough to recognize the necessity to leap-frog current thinking in raw materials, additives, and processes, will do the type of development work that is really in the realm of current manufacturers and produce a board with high strength, high rigidity, low density, paintability, extremely good dimensional stability, no fastening problems, acceptable color and surface, smooth edge, and attractive price."—*H. James Gill, Jr., Caradco, Inc., Dubuque, Iowa.*

Office Furniture.—"In the manufacture of office furniture we use a considerable amount of both extruded particle board as well as flakeboard core material. Still there is great deal of footage of lumber core used in our industry where we feel particle board as currently manufactured does not fill our requirement.

"This is primarily true in the field of large desk and modular table tops where more than likely the top will cover a large unsupported area. When used in this manner, particle boards tested by our firm have shown a tendency to sag. Certainly if a core material were available with the ability to remain as rigid as a lumber core it would find a ready market in this field."—*Gilbert B. Bosse, president, Imperial Desk Co., Evansville, Ind.*

Piano and Organ Benches.—"As manufacturers of piano and organ benches we have been searching and are continuing to search for a particle board or flakeboard that would permit us to make bench tops in 3-ply construction, putting on the board only a face and a back of veneer. The board should be of proper consistency and color to permit us to mold into shapes like OG edges, and to finish it in standard shades of mahogany and walnut, and even fruitwood finishes it possible. The board has to have a reasonable screw-holding power as well as the normal non-warping and non-twisting properties of particle boards. It also must not be subject to telegraphing.

"Our Ultimate Goal"

"We know that this is being done by some manufacturers. From the boards we have tried so far, we have not been entirely satisfied with the results. This is our ultimate goal in the use of particle board, and one that believe could represent tremendous cost savings for us. We are currently using particle board as core stock in 5-ply constructions, with butt corner bands on the cores."—*H. S. Shearin, vice-president and secretary, Manual Arts Furniture Co., Cincinnati, Ohio.*

Sports Equipment.—"We use hardboard in many areas in our operation, but do not use it in any unusual manner. Possibly if this material could be formed under pressure to contours, then we could extend the use of hardboard in other areas. To use hardboard in this manner, it would be necessary that the surface not wrinkle and the strength not deteriorate.

"We do not use particle board because the strength is low, weight is high, screw-holding is low, and waste would be high because of sheet size. The products it could be used in would be cores for table tops that we manufacture."—*T. W. Harvey, factory manager, Bowling and Billiard Div., Brunswick-Balke-Collender Co., Marion, Va.*

SINGLE SHIPPING SOURCE
partners for 3-ply construction

GRACO FLAKEBORD—The quality core manufactured of prime timber

GRACO PARTICLE BOARD—A uniformly produced, lower cost board

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GRAY PRODUCTS COMPANY, INC.

WAVERLY, VIRGINIA

ONE OF 32 PRESSES operating on three-shift basis in molded particle board pilot plant of J. F. Werz, Jr., at Oberstenfeld, Germany

With 32 presses operating on three-shift basis, German originators of Werzalit Process report many applications where material suits purpose and economies are indicated

MOLDED PARTICLE BOARD

. . . Wood Product With a Broad Future

They Didn't Know It Was "Impossible"

In an article titled "Exploring Molded Particle Board," published in the May, 1960, issue of WOOD & WOOD PRODUCTS, Bruce G. Heebink, of the U.S. Forest Products Laboratory, Madison, Wis., cited "rumors from Europe indicating that the Germans are molding boxes and the British are molding various parts for TV cabinets." Reporting on promising explorations of the Madison researchers into this field, he cited mat formation, lack of flow, expanding or contracting molds, and press cycles as problems which would eventually be solved by "some uninformed and unguided soul (who) will mold these parts because he didn't know it was impossible for him to do so."

Efforts by the editors of WOOD & WOOD PRODUCTS to help readers on this side of the Atlantic and elsewhere in the world to learn more about the challenging possibilities of particle board molding have borne fruit in the accompanying report, thanks to the cooperation of Production Development Corp., Raleigh, N. C., U.S.A. technical representative of the J. F. Werz, Jr., organization in Oberstenfeld, Germany.

The Werz pilot plant is now running 32 presses in a three-shift molding operation, and a large wood products firm in Great Britain has begun production of "Werzalit" molded products under license from Werz. Others, in Switzerland, Israel and Germany, have recently been licensed and negotiations are reported in progress for the licensing of similar operations in the United States.—THE EDITORS.

MOLDED PARTICLE BOARD has a broad range of potential uses because the properties and the shape of the desired product can be made to order.

Molded particle board has advantages when it is recognized as the ideal material for a given application and is economical to use. Determination of these factors requires familiarity with the technical and economical aspects of the process. Production quantity is of extreme importance. In general, the simpler an item, the larger the quantities that must be produced to compete with conventional methods. A smaller quantity of a very complicated item usually is quite competitive.

The terms "simple" and "complicated" are used here to apply to something which can be manufactured by a conventional method. Sometimes it is economical to produce a series of 5,000 pieces and in other cases 50,000 pieces is a minimum. There is no general rule. The examples cited here will indicate the practical possibilities and advantages of molded particle board.

As in the case of the usual high quality flakeboard, the raw material is wood converted into particles about ¾ in. long and .010 in. thick. The flakes are further reduced in size in reduction mills, then dried to a moisture content of approximately 2% and sent to a storage bin.

The binders may have any one of three bases—urea, phenol, or melamine—depending on the desired properties of the end product. The binders usually are solutions in water with a solids content of between 50 and 70%.

In molded particle board the resin content varies with the desired properties of the product and is usually between 10 and 25%.

For the manufacturing process, binders with the highest possible resin solids content are preferred in order to keep the particle-resin mix low in moisture content. The mix is separated by weight in batches, then put into the die press. (In certain applications the mix is prepressed in a cold press

and the mat is then placed in the die.)

The parts are cured at temperatures of 280 to 300 deg. F., and pressures between 300 and 700 p.s.i. (depending on the amount of curvature, etc.). In the same operation the parts may be veneered or covered with a resin-impregnated paper sheet of sheet plastic. Veneer is usually applied with a dry glue film.

Veneered parts are sanded and finished in the normal manner, but overlays can be used to produce a finish in the initial operation. So far, good results have been reported with light-colored woods. The plastic-covered molded particle boards are ready and finished when they leave the press.

Unfinished Molded Board

Bottom panels for radio and television cabinets must have a number of depressions, molds and slots which are necessary for the connection of the chassis and other components as well as for ventilation. When such panels are complicated, molded particle board can be economical.

The properties of the molded particle board can be adapted to the specific requirements of the part. For instance, density can be increased or resin content can be increased in certain locations to increase screw-holding properties. When compared to metal or plastic, a panel of particle board has better acoustical properties. Photo A shows a panel for a television cabinet made from molded particle board. In this case important factors are savings in material and savings in labor. The latter is the deciding factor. The accuracy of recessions and openings is of a high order. Large runs are required for economy.

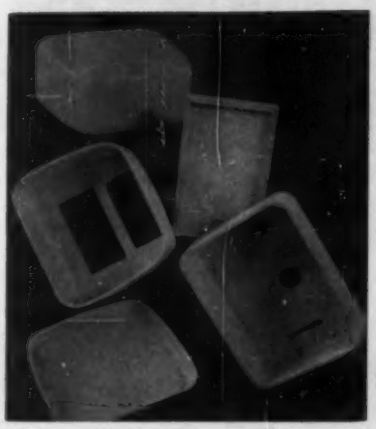
Transport, Storage Containers

Standardized transport and storage containers, usually made from metal, solid wood or plywood, can now be made from molded particle board. They are made in one piece and are reported to be very stable. Without adding to the cost, the interior corners can be rounded to facilitate removing small components and company names can be inscribed in forming.

Luggage and Carrying Cases

For tape recorders, phonographs, projectors, etc., carrying cases are required which are often manufactured from plywood, plain or molded, with

A



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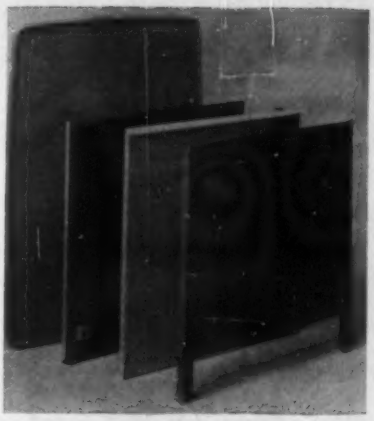

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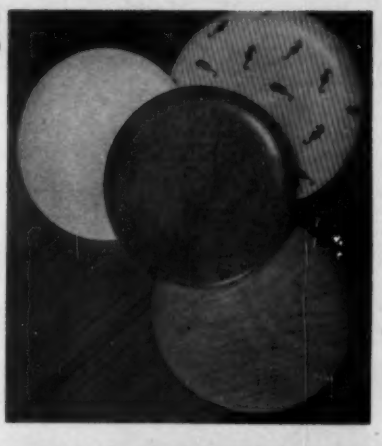

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G

NEW MOLDED PARTICLE BOARD applications include: (A) Television cabinet chassis panels; (B) Luggage and fitted carrying cases; (C) Veneered molded particle board table tops; (D) Refrigerator/Freezer top covers; (E) Stool and chair seats with pressed-on plastic surfaces; (F) Plastic covered molded trays; and (G) Building components

corner reinforcements of solid wood. Their manufacture has been perfected in such a way that even with the relatively high demand for labor, the cases are sold quite inexpensively.

Some cases are made with phenolic or other resins and do not need any subsequent surface treatment. For smaller cases this type of manufacture is certainly the simplest and cheapest at the present time, but the acoustical properties are such that the panels may vibrate in resonance with sound.

The manufacture of cases from molded particle board suggests a better way. The thickness of the panels has been reduced to 5/32 in. As to the form of the products, the process allows the designer a fairly wide range of possibilities. The stability and acoustical properties of molded particle board cases are reported to be very good.

It is possible to include certain depressions and openings in the product, as illustrated in Photo B. Usually molded particle board cases are covered with vinyl on a fabric base. Certain types of cases are covered with pure vinyl by the vacuum process.

There are many possibilities for the unfinished molded particle board case, such as storage for carbide tools, etc. More interesting, but also more difficult, is the manufacture of veneered and melamine covered particle board cases.

New possibilities of table top design are suggested through the new manufacturing process, as illustrated in Photo C.

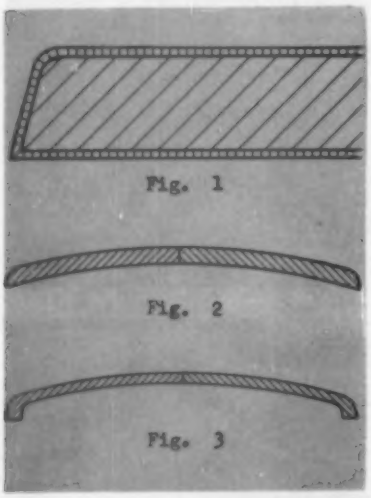

FIG. 1: Weatherproof table top is plastic covered on all sides, eliminating edge banding. Fig. 2: Door is pressed in this form with 200 in. radius. Long edges have radius of 5/8 in. over which veneer has been pressed without joint. Fig. 3: Door pressed in one operation with face veneer. There's no joint on entire curve surface

When the top has a rim on the short side it is veneered in the same operation in which the particle board is formed. This profile gradually changes into the rounded edge of the long side.

It is also possible to cover table tops with a variety of plastic surfaces. Using the right type and quantity of resin, it is possible to manufacture the table tops as weatherproof garden furniture. Fig. 1 offers an example of a weatherproof plastic-covered table top covered with plastic on all sides, with edge banding eliminated.

The process is also used in manufacturing table tops for camping purposes. To save weight, the center portion of the top is only 9/32 in. thick. The edges are strengthened to improve appearance and give sufficient support to hardware.

Doors, Mouldings and Frames

For radio-phonograph combinations and television consoles, doors of a variety of shapes are manufactured. Fig. 2 shows a door which has been pressed in this form with a radius of 200 in. The long edges have a radius of approximately 5/8 in. over which the veneer has been pressed without a joint. The door shown in Fig. 3 has been pressed in one operation with the face veneer, which also has no joint on the entire curved surface. Added to the purely technical advantages of the molding process, the production cost is reported to be lower.

In certain types of products, mouldings or frames covered with expensive face veneers are used to enhance appearance. Molded particle board is adaptable to such constructions.

For various types of television cabinets, veneered frames can be pressed from molded particle board. Three-dimensional mouldings may be pressed from a special flake and resin fixture. The majority are veneered in walnut with the grain running perpendicular to the moulding.

Plastic Covered Molded Board

An interesting field for molded particle board is its combination with plastic surfaces. Until now, with few exceptions, it was possible to cover flat particle board with only high-pressure laminates or other forms of plastic. These panels could be bent in one direction only and to a very limited degree. Three-dimensional shapes were impossible.

With the process under discussion, molded particle board covered with durable plastics can be bent to a 90 deg. angle.

In Europe refrigerators often are only 36 in. high and the tops are used as work surfaces. Until recently one particular kind of top cover was used. A panel made from hardboard was covered with a high-pressure laminate and mounted on a frame of solid wood or metal. The edges were covered with a metal profile. The mounting of such a top cover was relatively difficult and costly in time. The protective metal moulding resulted in a dirty edge.

With the Werzalit process the requirement was that the panel would not have a separate moulding—the plastic sheet would cover the panel and its edges without any joints, and the mounting should be simple.

These requirements were met by inclusion of certain metal fixtures in the pressing. With these fixtures, the panel was attached at one side; the other side was attached with wood screws. Preboring was not necessary as impressions for the wood screws were included in the die. Photo D shows such panels.

Kitchen Seats and Trays

Seats for kitchen stools and chairs have been manufactured from molded particle board for some time. The combination of molded particle board and a pressed-on plastic sheet gives a very decorative and neat appearance, as illustrated in Photo E.

Cafeteria trays today are made from a wide variety of materials. The trend toward a wood product is very apparent. The most important reason is the good, solid look of the material and the low heat conduction. Plastic-covered trays have the favorable properties of wood and the cleanliness and decorative effect of the plastic. Photo F shows a typical tray manufactured by the molding process. It is also possible to manufacture these trays with a veneered surface and cover the veneer with a finish in the same process.

Parts for Autos and Houses

Although instrument panels have been made for European cars, inside door panels and shelves appear to be the best potential applications of the molding process in the automotive industry.

There is no production of structural house parts under way at this time, but the Werz firm is now making dies for the experimental production of window sills, countertops, and other parts. If the economics of these parts turns out favorably, this field may be the largest outlet for molded particle board products. Photo G illustrates some of the many possibilities for structural components.

When Bonding Plastic Laminates To Particle Board

Get Fast Permanent Bonds

With Angier* Adhesive SW-5784

For fast, assembly-line bonding of low or high pressure plastic laminates to particle board cores, your best bet is Angier SW-5784.

SW-5784 ROLLER COATS BEAUTIFULLY! May be applied to both sides of the core at once. Ideal viscosity characteristics permit application of thin, uniform films resulting in better mileage and lower costs. Viscosity build-up on the coater is negligible. Tinted to aid control of desired film thickness. A companion formulation (SW-5780) for spray applications is also available.

SW-5784 SPEEDS PRODUCTION! Ready for bonding in 1 minute at 200°F., 4 to 5 minutes at normal room temperatures. Practically instantaneous development of bond strength permits handling immediately after nip roll combining for attaching hardware, edge trimming, sawing, drilling, etc.

SW-5784 DEVELOPS SUPER BONDS! And the bonds retain their strength and resilience over long periods of use. SW-5784 will withstand a minimum of ten temperature-humidity cycles (95% RH — 120°F. to 50% RH — 140°F.) as well as freezing cycles to —5°F. Core failure results when mechanical delamination is attempted.

Angier specialization in this field has resulted in a wealth of laminating "know-how" and technical service experience which accrues as an extra dividend to users of Angier adhesives.

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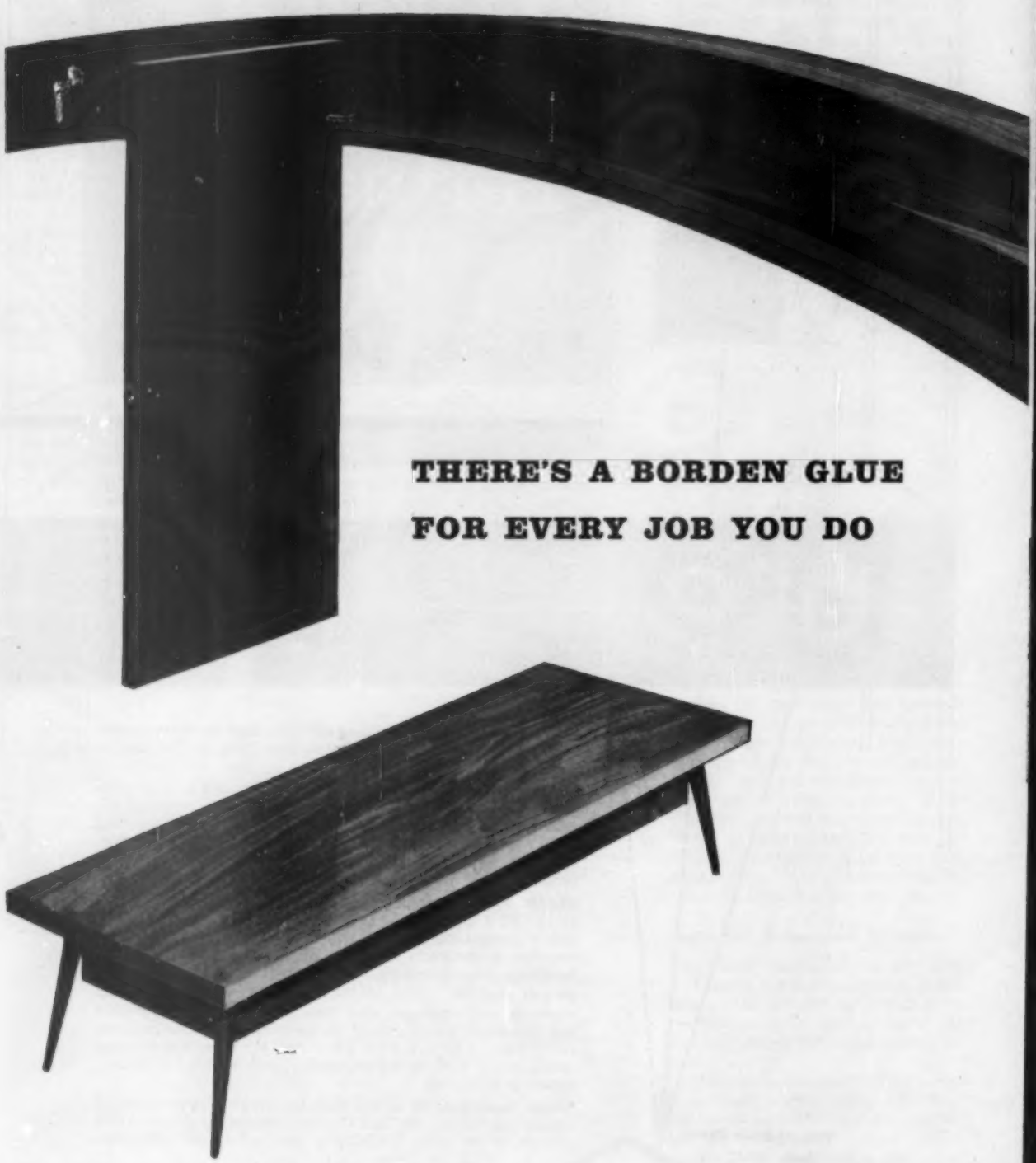

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CHARLES H. BURROWS, wood technologist, Oregon Forest Research Center, holds board pressed from Douglas fir bark particles without use of binders. Boards on table have various overlays

Particle Board from Bark Without Additives

Oregon Forest Research Center makes satisfactory board without resin and wax from Douglas fir bark—Uses similar to those of other board and panel products

UTILIZING DOUGLAS FIR BARK to make particle board without additives is the result of several years of research at the Oregon Forest Research Center, Corvallis, to convert millions of tons of bark into a satisfactory and salable product economically.

Bark board manufacturing techniques are similar to those for making wood particle board. Mill-run, slab bark is reduced in a hammer mill to particles which are dried and screened prior to mat forming and pressing. Although research and pilot plant studies centered on flat-pressed boards, molded or extruded articles can be made because bark has the ability to flow under heat and pressure.

Such items as blenders, tanks for storage of additives and possibly sanding equipment are not needed for bark board production, but a special press —estimated to cost 50 to 80% more than conventional particle board presses—is required to permit rapid heating and cooling. Tests show that it's desirable to let a cured panel cool in the press before removing it.

Physical properties such as raw material characteristics, mat moisture content and pressing conditions can be varied to tailor the resulting board for the desired end use.

Particle board made from bark may be used in the same applications as other board and panel products—sheathing, underlayment, core, paneling and insulation. The exceptional resistance of bark board to the entry of water suggests special applications. The most promising product, because of its versatility, is a bark board overlaid with kraft fiber. Such a product has strength adequate for most applications, is pleasing in appearance and can be handled or worked satisfactorily. The fiber sheet overlayment can be added to the bark mat and pressed with it.

The added cost of a special press for producing bark board, plus increased freight cost (because of greater density) is offset by the greatly reduced manufacturing cost due to the elimination of resin and wax expenses.

Editor's Note. *A complete report, Particle Board From Douglas Fir Bark Without Additives, is available from the Oregon Forest Research Center, Corvallis, Ore.*

R. D. WOOD COMPANY

How to grow in the booming industry of composition board production!

Whether expanding present facilities . . .

or installing a new production system . . .

let R. D. Wood Company put their complete knowledge of the wood processing industry to work in the design and production of *your* hydraulic press installation. Wood Presses are built to perform for years. Many expandable design features help you grow in proportion to ever-increasing demands. Here's how . . .

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R. D. Wood Presses – engineered

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Grow with the press manufacturer who knows your needs and how to meet them. R. D. Wood Company! When you buy a Wood Press you're buying sound, dependable performance for many years to come. You're set to meet any market demand—profitably.

Specific Experience R. D. Wood Company knows the wood composition board industry—and they know the press business. This combination gives you the advantage of gaining pertinent knowledge and experience which can be applied to your specific problems.

Finest Quality Only the highest manufacturing standards and top quality materials are used in Wood Presses to guarantee you smooth, dependable performance; fast, economical production; trouble-free operation—features you naturally expect with a Wood Press.

Sound, Imaginative Engineering When your complete hydraulic press installation is designed, it's engineered to meet your present requirements *and*, if you desire, to anticipate future expansion. With sound planning, you can increase production without excessive time loss during conversion and without a major equipment investment. In some cases, you can actually *double* production with one machine.

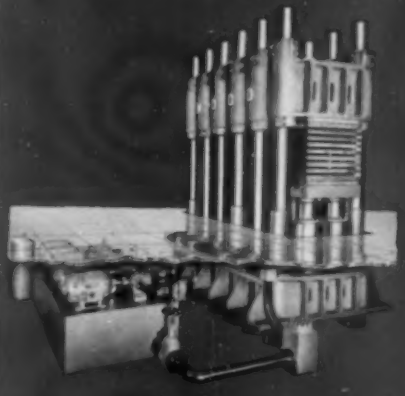
Engineering Service You get the benefits of experienced engineers who can advise you in preliminary planning, then save you money in the press design by utilizing basic R. D. Wood plans and applying your specifications and modifications. You suit your needs, yet save valuable engineering dollars!

A Complete Line from which to Choose You can get any size or capacity you need for your press operation, plus necessary valves, platens, accumulators, accessories. Shown here are a few of the basic presses available . . . one, or more, can meet your needs—exactly!

Choose your press from this complete line of composition board presses. For other special processes such as Chipboard, Flakeboard and Particle Board, there's a Wood Press to fit your exact requirements. All presses can be furnished complete with pressure and exhaust steam manifold and steam piping, self-contained, motor-driven pumping systems or valving and piping to operate from your accumulator systems. In addition, each press is designed to fit automatic loading and discharge units.

For Dry Process Hardboard

Machine Number 8197, accumulator operated hydraulic press. Capacity, 7,500-tons; platen size, 54" x 150"; number press openings, 10; height of press, 24'11"; floor space, 10'9" x 14'4". (Can be furnished with self-contained pumping unit if required.)



For Dry Process Hardboard

Machine Number 8423, self-contained hydraulic press. Capacity, 8,300-tons; platen size, 54" x 200"; number press openings, seven expandable to 15; height of press, 29'; floor space, 11'3" x 15'9" (press only).

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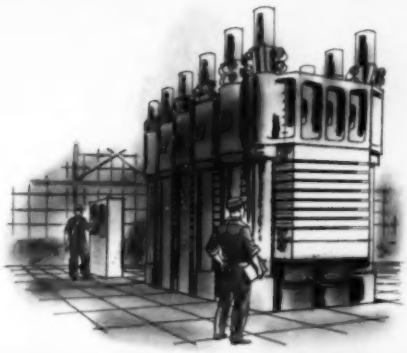
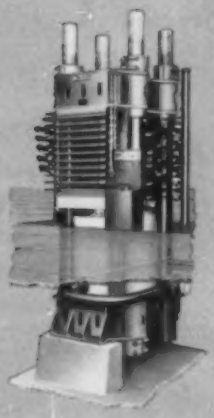


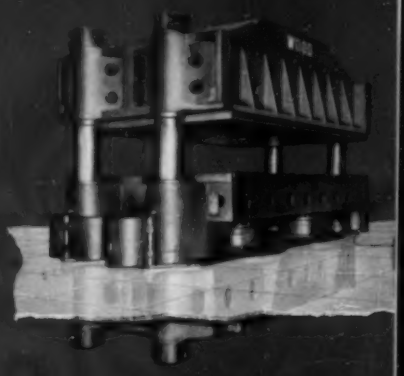


For Dry Process Hardboard

Machine Number 9282, self-contained hydraulic press. Capacity, 4,000-tons; platen size 56" x 116"; number press openings, ten expandable to 16; height of press, 28'; floor space, 20' x 20'.

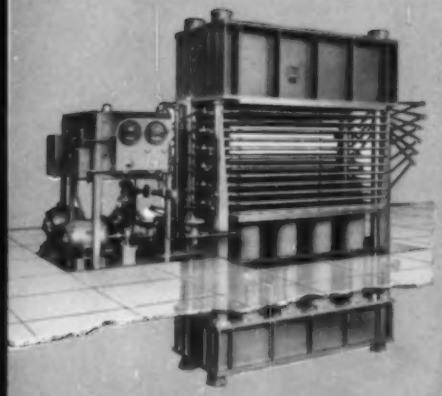
For Wet Process Hardboard

Machine Number 9313, self-contained hydraulic press. Capacity, 3,675-tons; platen size 54" x 198"; number of press openings, ten expandable to 20; height of press, 33'; floor space, 11'6" x 16'7" (press only).



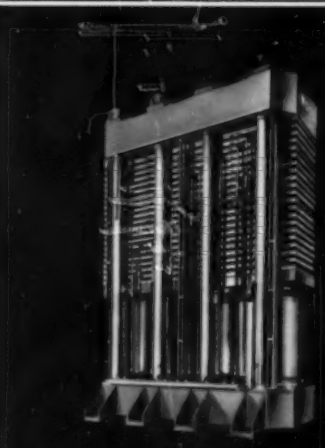
For Composition Board

Machine Number 9467, self-contained hydraulic press. Capacity, 1,200-tons; platen size, 13'10" x 9'1"; height of opening, 3"—opens to 24" for inspection and maintenance; stroke of rams, 24"; height of press, 14'; floor space, 18'2" x 9'1".



For Plywood

Machine Number 9292, self-contained hydraulic press. Capacity, 625-tons; for manufacturing sheets 50" x 100"; stroke of rams, 39"; press openings, 12; height of press, 17'1"; floor space, 8'2" x 20'8" (press and pumping unit).

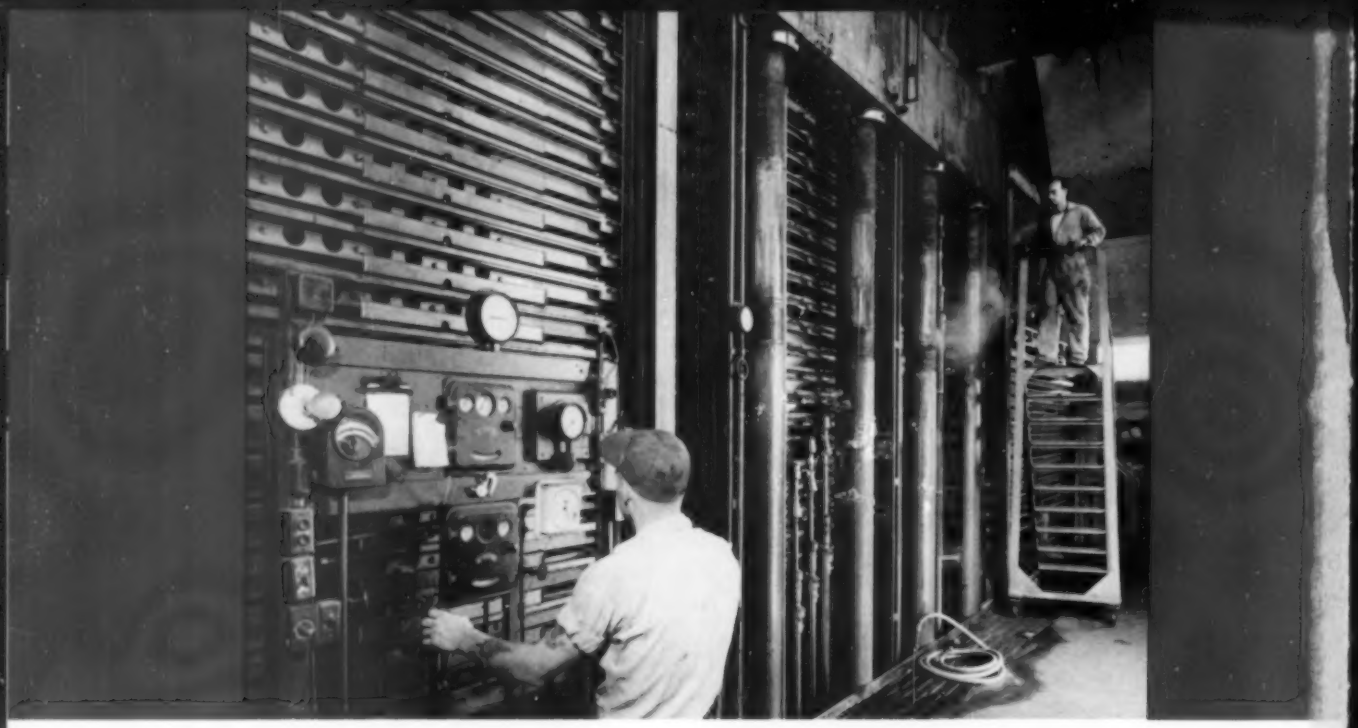


For Wet Process Hardboard

Machine Number 9471, self-contained hydraulic press. Capacity, 3,600-tons; platen size, 54" x 198"; press openings, 20; height of press, 33'; floor space, 11'6" x16'7" (press only).

For Special Processes

Machine Number 9102, combination press for cement-asbestos board and corrugated cement-asbestos board; self-contained, high-production hydraulic press. Manual, semi-automatic or fully automatic. Capacity, 6400-tons; platen size, 55" x 151"; single opening; height, 3'10"; height of press, 23'; floor space, 12' x 12' (press only).



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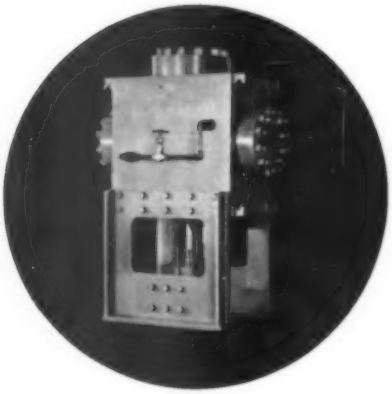
Here's the perfect working surface for your board products. R. D. Wood Platens are precisely manufactured to give you the highest grade surface finish so that you can produce top quality products—consistently. They are made from solid steel slabs, machined to parallel tolerances of .003″ to .0015″ and drilled with extreme precision on accurately spaced centers to insure equal heat distribution throughout the platen.

There are three grades of finish available—*smooth tool finish*, provides a true surface suitable for most commercial applications; *emery-and-oil-finish*, used where processed material directly contacts platen, and exactly uniform product surface is not required; and *high polish emery-and-oil-finish*, completely free of tool marks, for direct contact processing with uniform surface appearance. Sizes range: 7′0″ x 34′0″ or 8′0″ x 26′0″, either steam or electric. *Perfect for your new press. Perfect for replacement on existing presses.*



Every valve you need for a complete hydraulic system.

When installing a new system or updating an existing installation, you can get any valve you need from one source . . . R. D. Wood. Choose from a complete line of stop valves, check valves, operating valves, safety relief valves, shock absorbers, accumulator control valves, a large variety of special valves. With each you receive the same reliabl performance as with every Wood Press, because they're built to handle the toughest jobs—resist the roughest treatment.

First step to composition board production—contact R. D. Wood Company

Here's the logical way to start *your* plans for expansion. From R. D. Wood Company, you can get the benefits of the experience of many years, and many press installations, to be applied to your own situation. Write today for further information and be one step closer to a more profitable business.

R. D. WOOD CO.

PUBLIC LEDGER BUILDING • PHILA. 5, PA.

PLYWOOD PANELS, fresh from press, are passed through chain fed ripsaw (left) at rate of 50 f.p.m. Ripped stock is belt-conveyed to chain feed trimsaw (right) and passed through at rate of 60 f.p.m.

Modernization Ups Plywood Panel Output 20%

Conveyorized chain feed rip and trimsaws upgrade product quality and decrease labor costs for Belcher Plywood Division

A NEW INSTALLATION of conveyorized chain feed rip and trimsaws enables Belcher Lumber Co.'s Plywood Division at Centreville, Ala., to deliver the same amount of plywood panels to its furniture industry customers in five days that it used to take six days to produce. The belt conveyor combines with a number of built-in accessories to provide an extra dividend of 25% in savings on labor costs.

The chain feed units, which were customized by the manufacturer to meet Belcher's specific requirements, have hardened block chains with rubber insert pads which help to upgrade product quality by virtually eliminating bowed stock and by greatly reducing panel rejects. Each saw has a variable feed speed of 20 to 60 f.p.m.

"We normally operate the multiple ripsaw at 50 f.p.m., and the multiple trimsaw at 60 f.p.m., which gives us 50,000 ft. surface production daily," says John Durham, division superintendent.

Plywood sandwiches, fresh from the press, are passed through the ripsaw and the trimsaw quickly. Waste falls off into an under-floor conveyor. From the outfeed end of the trimsaw, workers stack the panels on movable gravity beds which are conveyed on live rolls to the sanding department.

Setup speed has been greatly improved since installation of the multiple cutoff machines, according to J. G. Huey, Jr., plant layout engineer. "Between 25 and 75 adjustments are made daily, and the few seconds saved on each setup will eventually pay for the custom accessories we added to save time," he says.

Whereas it formerly took 7.3 min. to adjust the old, replaced slat-bed unit, operators complete the job on the new unit in 1.5 min.

Other time-saving devices include electric motors for raising and lowering the arbors on both machines. "This feature alone has reduced the time required for adjusting to different panel sizes by 50%," Huey reports.

Fine settings can be made with an alternate hand adjustment. After the arbor has been moved, the operator loosens one thumb-set screw and adjusts the hold-down by a rack-and-pinion with the same handles used for adjusting the chain beam.

Control buttons for arbor adjustments, the arbor motor and the feedworks motor are located on the outfeed side of the unit for reasons of safety. This way the operator is in plain view of anyone who might otherwise start the machine when he is adjusting the saws.

Another safety feature is an electric eye which automatically cuts off the feed motor if one of the adjustable lugs is overstocked. The arbor motor continues to operate, however, to prevent throwing a bind into the arbor.

Both units are equipped with identical arbors and collars, which cuts down on inventory by permitting Belcher to use the blades interchangeably;

WASTE FALLS into under-floor conveyor from outfeed side of multiple trimsaw

QUICK SAW BLADE ADJUSTMENTS, one of many customized features built into chain feed units by manufacturer, are possible, reducing time for adjusting to new panel sizes 50%

this added flexibility is another means of maintaining production efficiency.

In addition to plywood panels, which have been produced since 1950, the company manufactures broom handles, dowels, oak flooring and lumber under the direction of Brady Belcher, president. Operating four mills in all, the firm has complete planing, moulding and timber surfacing facilities plus an electronic gluing setup. The mills are supplied from Belcher's own 125,000 acre timber stands.

Equipment Used by Belcher Lumber Co.
Chain feed rip and trimsaws . . . Moreon-Johnson Machine Co.

New Fiberboard Plant

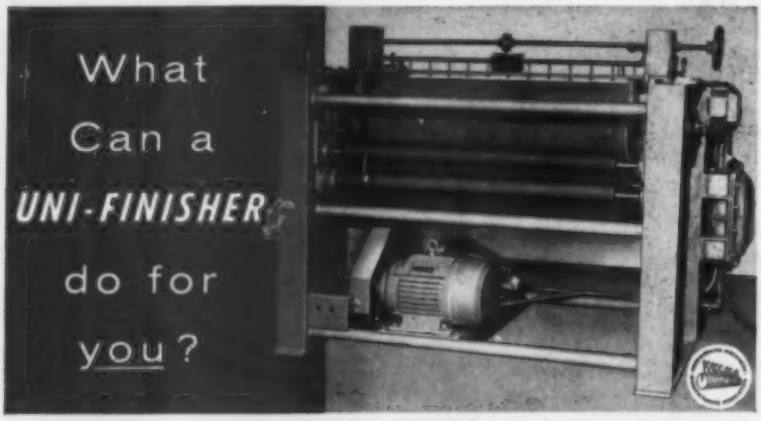
A PILOT PLANT for the production of a new fiberboard that will put one of the most vexing by-products of the wood pulp industry to economic use is now under construction at Redding, California.

The product, developed in the laboratory of Sheetwood Products Co., Seattle, and San Francisco, at a cost of more than $500,000, will be made of wood chips from sawmills and plywood plants with a binder produced from waste sulphite liquor from Pacific Northwest pulp plants.

The waste sulphite liquor discharged from pulp mills is a major source of stream and water pollution in pulp making areas.

The productive capacity of the pilot plant will be sufficient for market-testing the product through a selected number of U. S. Plywood Corp.'s branches. Contemplated market for the board will be its use for siding and sheathing in the residential construction field.

The construction of the Redding pilot plant and the trial production of the board has been undertaken by U. S. Plywood Corp. as part of a joint venture with Sheetwood Products Co.



This NEW impregnated nylon wheel sanding machine can solve many sanding problems!

The Uni-Finisher applies a light abrasive action to wood, plywood, veneer, hardboard, particle board, metal or plastic sheets from 6" to 50" wide, 0" to 4" thick, at speeds up to 60 lineal ft./min. Ideal for finish white wood sanding, sealer and filler coat sanding, and polish sanding. Furnished with powered feed rolls and off-bearing rolls, or endless belt-feed, depending upon application. Excellent for pre-finish lines. Can be supplied as integral part of automatic conveyorized finishing system. Send for the complete story!

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THE UNION TOOL CORPORATION
WARSAW, INDIANA

UNION-WALLACE-INDIANA
A MANUFACTURING GROUP DEVOTED TO PRODUCING THE HIGHEST QUALITY WOODWORKING MACHINES

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Select White Hard Maple
From our Petoskey, Michigan Mill

We cut Select White Hard Maple to suit requirements in either Rotary cut or Half Round, lengths up to 87".

We feature the following attractive prices on sheets.

35,000' 1/24 x 20" Sound & Better	$10.00
135,000' 1/24 x 26" Sound & Better	$12.00
179,000' 1/24 x 31" Sound & Better	$14.00
62,000' 1/24 x 34" Sound & Better	$15.00
393,000' 1/24 x 28" Sound & Better	$15.00
56,000' 1/24 x 39" Sound & Better	$15.00

Above 6 items have all clear unselected for color developing included.

26,000' 1/24 x 26" Cl. Wh. Maple Veneer $30.00
75,000' 1/24 x 31" Cl. Wh. Maple Veneer $35.00

Prices FOB Petoskey

Birch

From our Sault Ste. Marie, Michigan Mill

We have a surplus of 30,000 to 300,000' each of 1/24 x 21", 28", 34", 39", 48", 56", 64" all Sound & Better all clear developing, at attractive low prices. Phone us collect.

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GOODYEAR

What can Videne do for your product? Let our laboratory supply the answer ...free

Want to see for yourself how VIDENE—Goodyear's polyester surfacing film—can add new glamour and appeal to many types of wood products?

Goodyear invites you to bring a sample wood panel to our laboratory. We'll laminate it with VIDENE. And we'll show you — free of charge — what VIDENE can do to make it even more appealing.

Here's an opportunity to explore new and wonderful applications for your product — with no expense or obligation involved. We'll be looking for you at Goodyear, Plastic Film and Sheeting Sales Dept. X-8733, Akron 16, Ohio.

In this modern research laboratory, Goodyear scientists and engineers are constantly advancing the art of protecting and beautifying wood panels.

VIDENE provides...

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- *Durable finish, with no multiple coating necessary*
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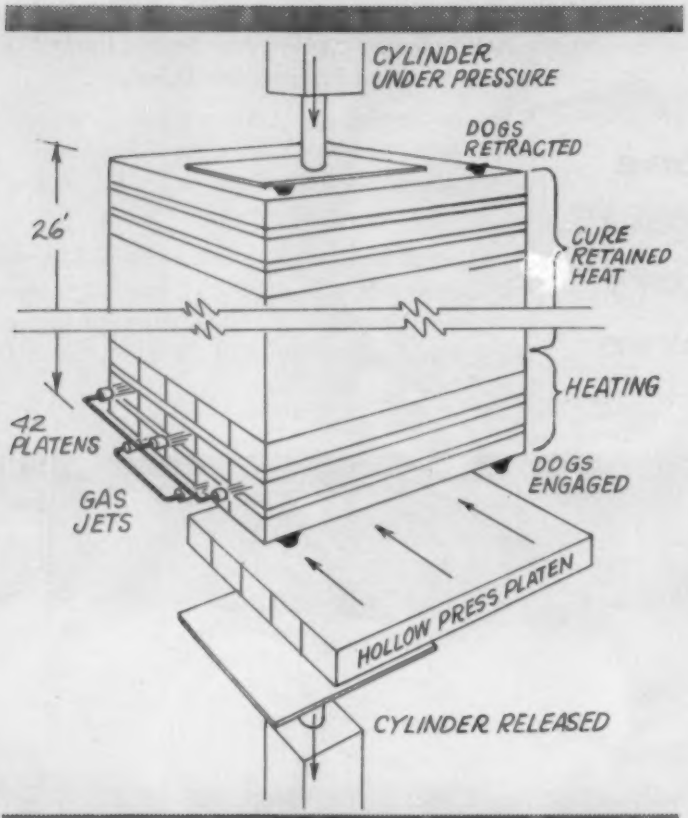
Lots of good things come from

GOODYEAR

Videne, a Polyester film—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio



BOARD A MINIUTE is produced on new type press at Superwood Corp.'s Multiply Div.

Aspen Flakeboard Produced in Gas-Heated Platen Press

New fiber-faced board produced with soya flour binder by Superwood Corp.'s Multiply Division

A NEW FIBER-CLAD FLAKEBOARD, manufactured from fresh aspen pulpwood with a soya flour binder, offers utilization of a portion of Minnesota's surplus timber in sheathing, underlayment and numerous other building applications. It's produced by the Multiply Division of the Superwood Corp. in a new plant at Virginia, Minn., using a new type press.

Current production of 4 x 8 ft. panels in thicknesses ranging from ½ to ¾ in. is geared to utilize approximately 11,000 cords of aspen per year.

The fresh pulpwood is cut into 15 in. billets and conveyed by water and by belt to chipper feed box. Here, uniform flakes (.5 x 1.25 x .002) are produced by shipping the wood parallel to the natural grain of the log so as to produce a strong board with a modulus of rupture in excess of 3,000 p.s.i.

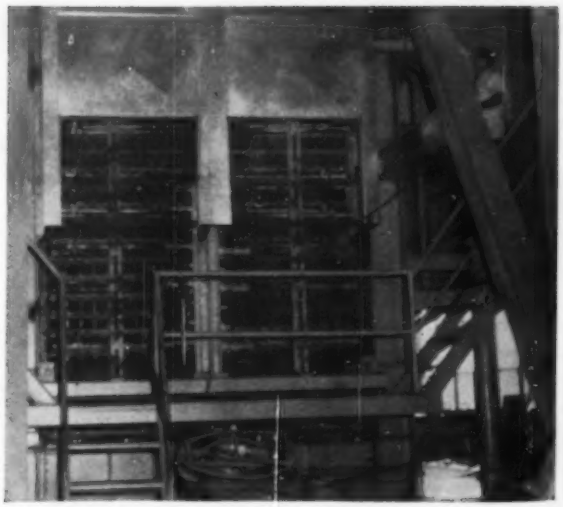
At the forming box, mixed and dried flakes combined with the binder are distributed over a wet fiber mat. Another fiber mat goes on top and the layup is cut to size prior to entering the pressing and curing cycle.

The fiber mats are prepared on a single cylindrical drum and coated with tempering oils. Purchased pulp lap is blended for this application.

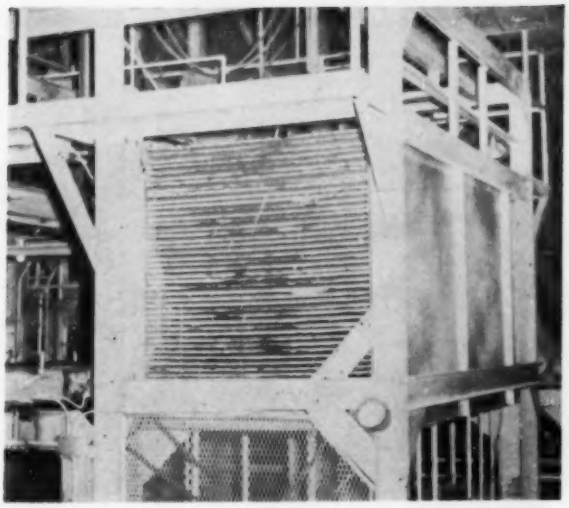
The unusual press consists of 42 hollow steel platens, loosely stacked within four corner frames. A hydraulic cylinder and a set of holding dogs at the top and bottom of the stack enable the press to act as a continuous production unit. It is alternately discharging one finished board and platen at the top and accepting a new board layup for curing at the bottom every minute and 50 sec. at present. The optimum speed is one every minute which means the minimum curing time is 42 min. The platens are

ASPEN LOGS, cut into 15 in. billets, are conveyed by water and belt to chipper feed box in new flakeboard operation

CYLINDRICAL DRUM uses pulp lab and tempering oils to form fiber mats which provide water-resistant surfaces for new board products



GAS JETS supply heat to hollow platen chambers as they pass through first few feet of 26 ft. continuous stack press



CURED BOARDS are discharged into a cooling cabinet prior to trimming and packaging operations

heated by gas flames directed at their hollow interior.

The actual heating takes place as the board passes through the first few feet of the nearly 26 ft. stack. For the remainder of the cycle retained heat and a constant pressure effect the proper cure.

Boards are discharged to a cooling cabinet before they are trimmed and bundled in preparation for shipment.

The use of fiber faces gives the boards uniform surfaces and adds to their stability, quality, rigidity and water resistance, according to Raymond Krause, plant superintendent. The boards have an average density of 40 lb. per cu. ft.

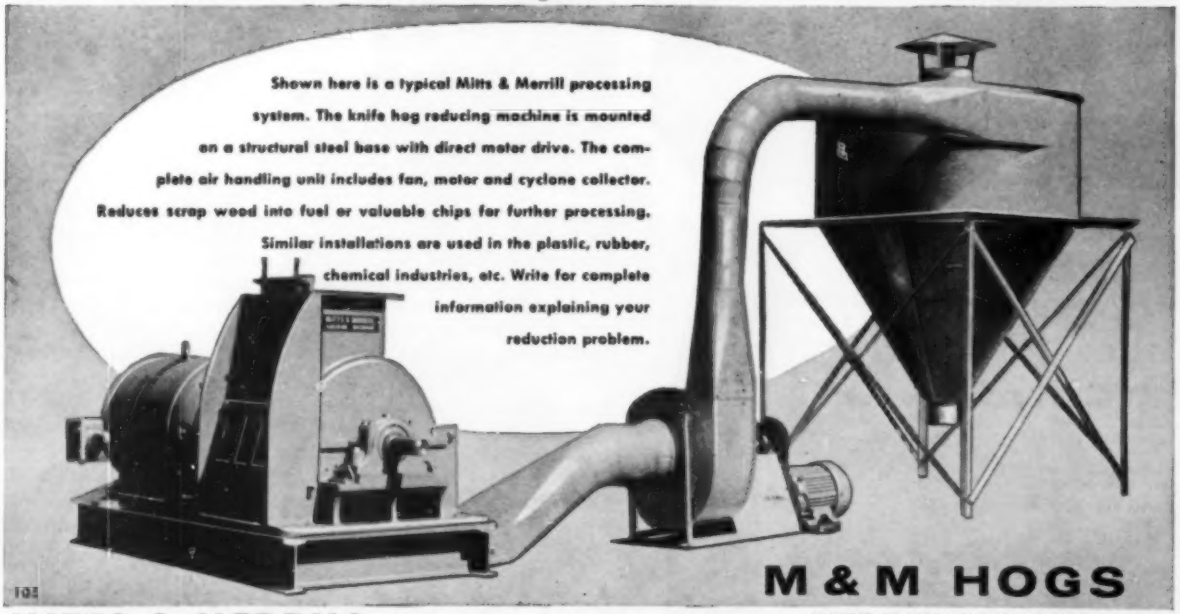
Some Equipment and Materials Used by Multiply Division, Superwood Corp.

(Circle number of item on which data is desired in coupon on Page 163)

(1204) Conveyors .....Pettibone-Mulliken Corp.
(1205) Chipper .....Chapman Machine Co.
(1206) Fiber mat formers. " " "
(1207) Press ..... " " "
(1208) Binders ....Archer Daniels Midland Co.; General Mills

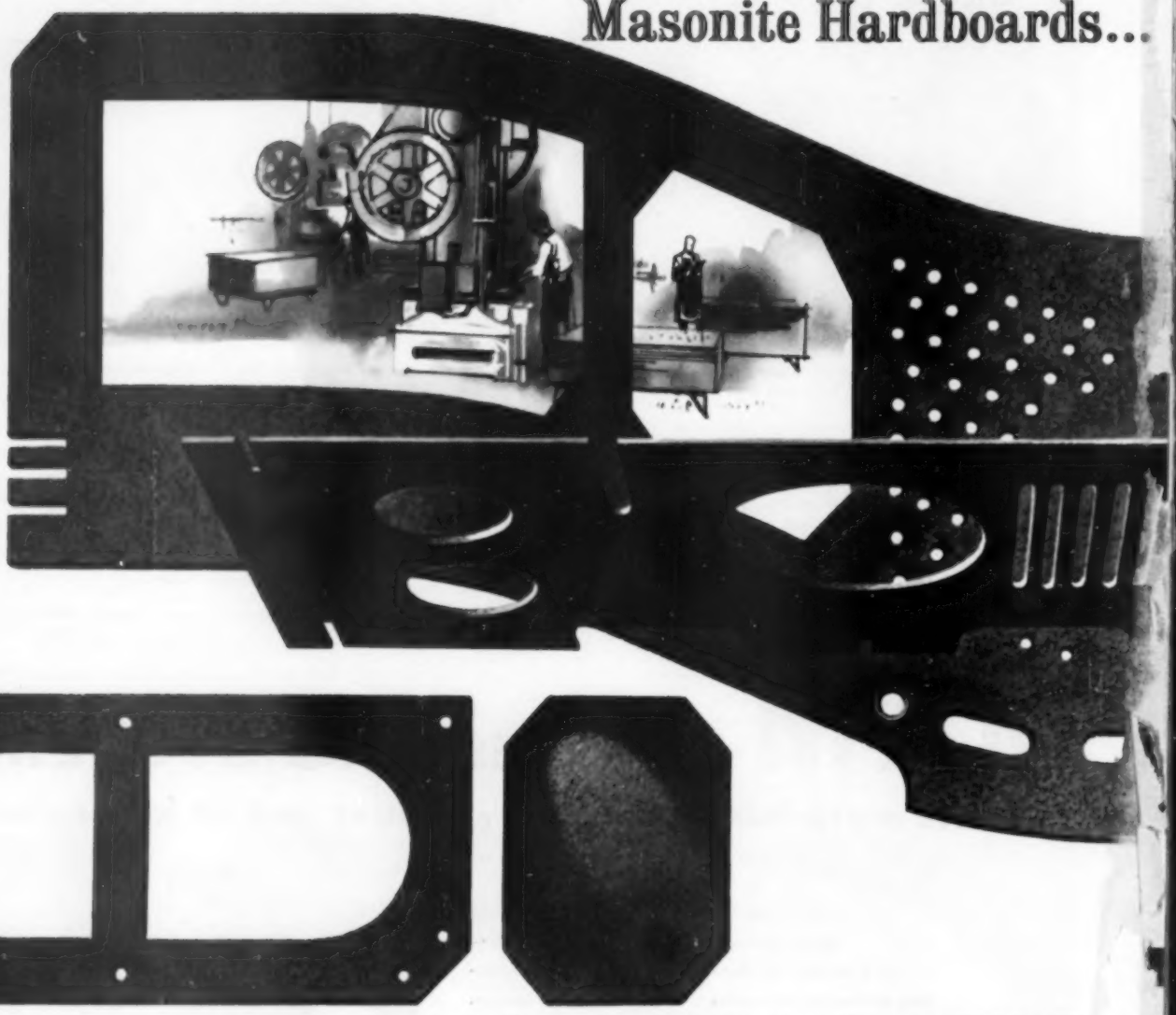
M&M PROCESSING SYSTEM

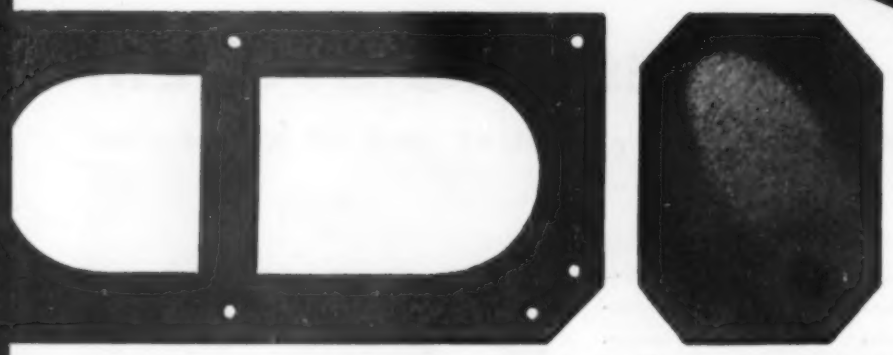
converts materials into chips . . . faster and at lower cost


Shown here is a typical Mitts & Merrill processing system. The knife hog reducing machine is mounted on a structural steel base with direct motor drive. The complete air handling unit includes fan, motor and cyclone collector. Reduces scrap wood into fuel or valuable chips for further processing. Similar installations are used in the plastic, rubber, chemical industries, etc. Write for complete information explaining your reduction problem.
M & M HOGS

MITTS & MERRILL • 1018 So. Water St. • SAGINAW, MICHIGAN • BUILDERS OF WORK-SAVING, MONEY-SAVING AND MATERIAL RECLAIMING MACHINERY SINCE 1854.

you can do just about anything with Masonite Hardboards...





for example Want something punched? Hi-fi or TV backs? Toys? Display boards? Masonite® hardboard takes irregularly shaped cutouts, slots, mitered corners—any kind of punching—for anything from bowling equipment to batteries. Ideal for blanking, too, no matter what kind of perimeter your workpiece calls for. Any product that requires a hole, a slot, an edge, a corner or a curve is better made with Masonite hardboard.

in fact Masonite fabricators can solve punching and blanking problems ranging up to 250 tons...can handle component parts large or small. And Masonite fabricators build their own tools and dies to fit your specific job requirements; all we need are your blueprints or rough sketches to work with. No offal or waste problems—you buy only the square footage you need to do your job.

MASONITE® CORPORATION

® Masonite Corporation—manufacturer of quality panel products for building and industry.

Masonite Corporation
Dept. 4-4, Box 777, Chicago 90, Illinois

☐ Please send latest design and production information on Masonite panel products.
☐ Please have your sales engineer call.

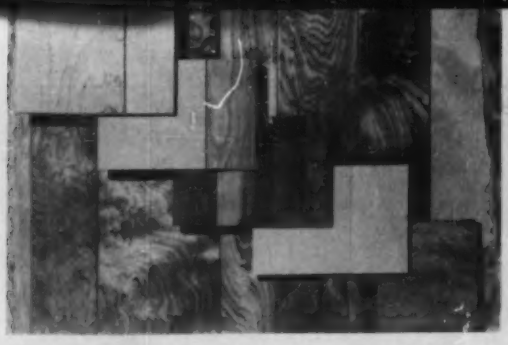
Name.....

Address.....

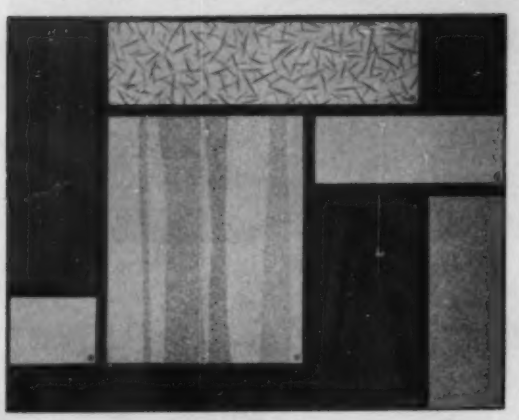
City..... *State*.....

Zone..... *County*.....

1.



New Panel and Sheet Ideas



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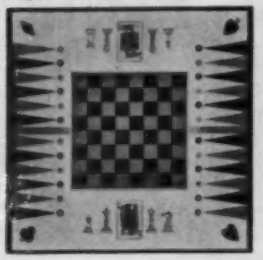
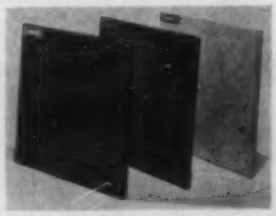


4.

SOME NEW PANEL and sheet designs and patterns: (1) Georgia-Pacific's prefinished plywood paneling in "Cottage" series; (2) seven new plastic patterns from General Electric; (3) game table top design by Pioneer Plastics; (4) Bradley Plywood's picture wall; (5) plastic-laminated flakeboard panels by Igelstrom-Oberlin Co.; (6) Formica's novel "Snap-On" paneling

5.



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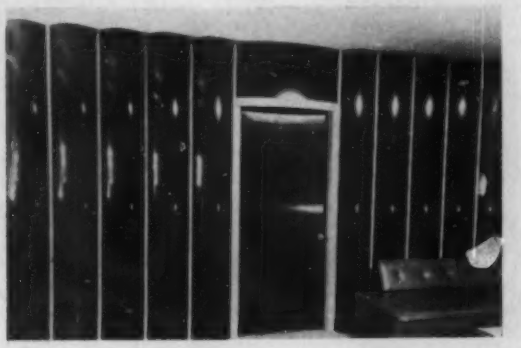
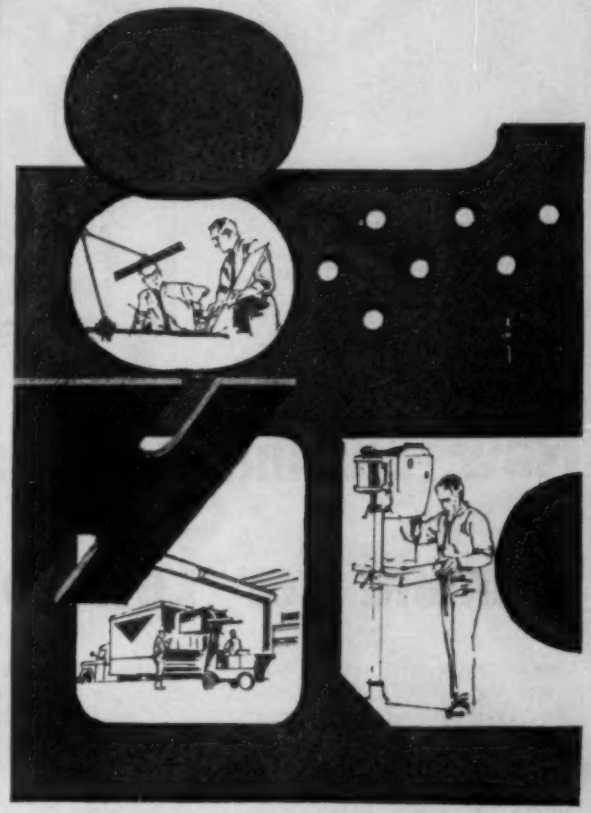


...and your fabricator will help you in all these ways:



ENGINEERING

Your Masonite fabricator helps fit the product to your picture. Wherever you now use wood or metal, he'll point the way to substantial savings on material...tremendous savings on tooling!

WAREHOUSING

No inventory problems. Your Masonite fabricator will deliver ready-for-use fabricated parts in any number your job requires—once a week, once a month, you name it. Just contact the nearest address below.

FABRICATING

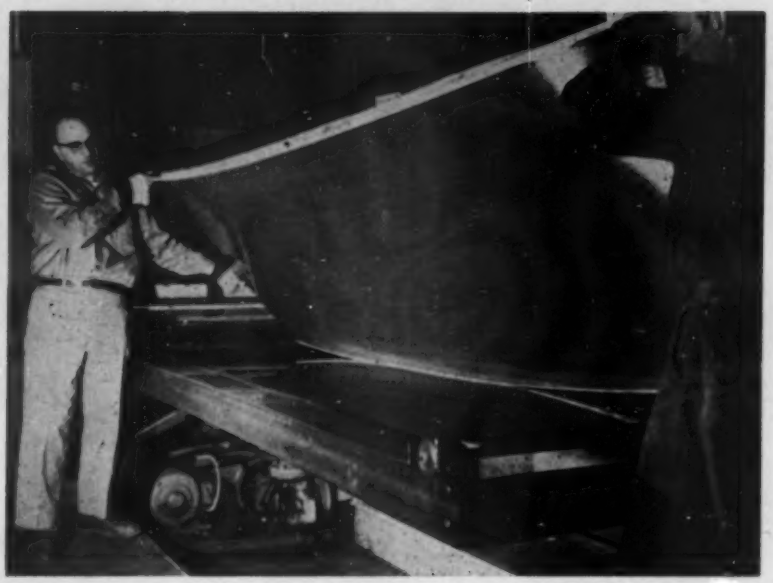
Your Masonite fabricator has complete facilities for die-cutting, punching, cutting, routing, forming. He provides any number of finishes (including wood graining) and laminates—even partial assembly!

- 2352 Glendale-Milford Rd., Cincinnati, Ohio
- 600 Progress Street, Elizabeth, New Jersey
- 1577 Rio Vista Avenue, Los Angeles, California
- 500 Carolina Avenue, Thomasville, North Carolina

MASONITE FABRICATORS

®Masonite Corporation—manufacturer of quality panel products for building and industry

◀Use Reader Service Coupon on Page 163.▶



HIGHLY PROTECTIVE finishes with high gloss and clarity provide low-cost table top surfaces

Plastic wood-grained finishes are laminated directly to hardboard cores in low-pressure system of Sauder Woodworking Co.

New Laminating System Meets Demand for Low-Cost Plastic Surfaces

A NEW LAMINATING SYSTEM permits Sauder Woodworking Co., Archbold, Ohio, to produce highly protective, wood patterned plastic finishes directly on hardboard cores for its Foremost Furniture line of desks and tables. The diallyl phthalate resin surfacing medium used produces high-pressure type finishes with a relatively low-pressure press. The curing cycle is 5 min. at 340 deg. F. and 150 p.s.i. Current output is 12,000 sq. ft. of stock per eight-hour day.

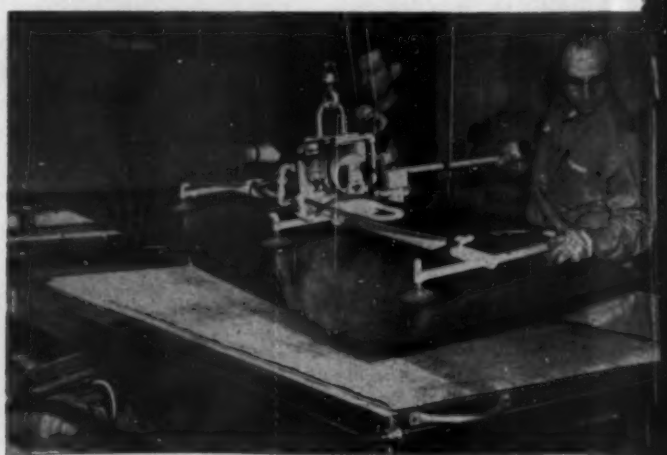
The new laminate is claimed to be resistant to heat, cold, moisture, alcohol, cigarette burns and abrasion, and it's applied as a flexible, resin-saturated paper.

Sauder creates a walnut-grain surface on 3/16 in. hardboard in a simple layup operation using the resin paper topped by a translucent overlay paper which cures crystal clear.

The layup sandwich produces two laminated panels. From top to bottom it consists of press pad, stainless steel caul plate, clear overlay paper, resin-impregnated patterned paper, hardboard, rolled steel press plate, hardboard, saturated papers and another caul plate.

Actually four panels are cured during one press closing. A shuttle press

RESIN-IMPREGNATED patterned paper and overlay paper are handled together from rolls to layup. Each of two shuttles handles two layups in sandwich and four panels are cured in one 4½ min. cycle



SUCTION LIFT reduces handling of stainless steel caul plates. After positioning of plates, shuttle platens—one from each side—roll into press for 340 deg. F., 150 p.s.i. curing

STRIPPABLE VINYL coating is applied to laminated panels, protecting them during subsequent working and handling

GLUE IS SPREAD on preformed Ponderosa pine frames which are applied to cut-to-size laminated hardboard to form table and desk tops. Solid table tops are made up from ¾ in. hardboard, laminated in one operation

plate carries a second two-panel layup sandwich into the press from the other side. The accompanying picture-caption sequence presents the laminating procedure.

A strippable vinyl coating is applied to the laminated hardboard to protect it during subsequent working and handling. Cut-to-size panels are glued to Ponderosa pine frames to form the desk and table tops. Solid tops are prepared with 3/4 in. hardboard. Prior to assembly, the desk and table tops receive a lacquer sealer coating. The laminates are used for all top and skirt surfaces.

After specifying the diallyl phthalate resin laminate, Erie Sauder, president, engineered his production line to take advantage of the savings afforded by the material. For example, the printed resin-saturated paper and the overlay paper are cut and handled together for efficiency. Supplied in rolls, the papers are ordered only 2 in. wider than the hardboard stock. "This means careful positioning is necessary during the layup, but it keeps waste to a minimum," he says.

Good housekeeping is necessary to preserve the clarity and high gloss of the laminate, so Sauder provides efficient waste and dust removal facilities throughout the plant. Paper and hardboard scraps are disposed of at once, and no sawing or sanding is done in the press room. The stainless steel caul plates are manipulated with suction lifts to avoid mars and scratches.

According to Sauder, his Foremost line is well received by the market which welcomes the advantages of laminated surfaces at low cost.

Besides walnut, the firm offers its line in limed oak and in the simulated wood grains with contrasting woven glass fiber insets. After curing, the insets are flush with the surface and look like inlays.

Current plans call for installing equipment to more than triple Sauder's present capacity.

Equipment and Materials Used by Sauder Woodworking Co.
(Circle number of item on which data is desired in coupon on Page 163)

(1210) Hardboard.....Abitibi Corp.; Masonite Corp.; Weyerhaeuser Co.
(1211) Diallyl phthalate resin.....Dapon Dept., Food Machinery & Chemical Corp.
(1212) Adhesives .....Franklin Glue Co.
(1213) Glue spreader .....Black Bros. Co.
(1214) Single-opening press ...Berthoisen Press Division, Onsrud Machine Works
(1215) Vacuum lift .....Vac-U-Lift Co.
(1216) Lacquer ..... Cincinnati Varnish Co.
(1217) Spray equipment .....DeVilbiss Co.

LACQUER SEALER COATING is applied to table tops before assembly laminated

ERIE SAUDER (left) examines lamination with strips of contrasting printed paper resembling inlay

HERE'S A WATER TIGHT STORY

— Plywood bonded by waterproof Melurac® 305 resin adhesive! Get waterproof bonds with any wood—surpassing FHA, Commercial Standard (CS 35-56) and the toughest Military Specifications. Melurac 305, a melamine-urea adhesive, readily takes the double cycle four-hour boil. You get superior results **at no increase in price.** It's non-staining, long-working, easy to handle and cures at moderate temperatures. Use it for block flooring, veneered doors and exterior and marine grade plywoods.

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"Finest Veneer Knife We've Ever Used!"
"We substantially cut down time for re-sharpening!"
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ROYAL CHINOOK

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Simonds Divisions: Simonds Steel Mill, Lockport, N.Y. Heller Tool Co., Newcomerstown, Ohio, Simonds Abrasive Co., Phil., Pa., and Arvida, Que., Canada

For Fast, Dependable Service Call Your Simonds Distributor

These are typical of the many comments we've received since introducing the All-New Simonds Royal Chinook veneer knife. Numerous users of this premium knife — available at ordinary knife prices — have substantiated our statement — "There's Longer Life In A Simonds Knife".

They've found that the New Royal Chinook is the answer to veneer knife problems. They've found that the Royal Chinook is extra tough, has extra resistance to nicking, dodging or breaking out — stays sharper longer and cuts more peeler blocks per shift than any other knife.

So, no matter where you need a veneer knife — on a lathe, clipper or slicer — it'll pay you to use a Simonds Royal Chinook. Check with your Simonds Distributor now — he'll give you all the details.

Use Reader Service Coupon on Page 163.

WOOD FLOUR goes from special grinding equipment (left) through conveyor system to cyclone (right) and is blown into railroad cars for bulk shipment at Gray Products Co.

Two Ways to Convert PARTICLE BOARD Waste to Profits

OFFAL from particle board production can be used to convert a liability into an asset. Some manufacturers are using the revenue obtained by refining and selling waste material as by-products to modernize or otherwise maintain production of quality boards that sell at competitive prices. Others are converting and reusing the waste in their production process. Either way, overall plant operating efficiency gets a boost.

Here are examples of both types of waste conversion.

Gray Products Converts Waste into By-Products

During the three years Gray Products Co., Inc., Waverly, Va., has been producing particle board—one type from flakes and one from shavings—it has initiated a number of efficiency measures to keep costs down so it can produce a quality product that sells at a competitive price.

Chief phase of this program lies in the utilization of waste materials. Gray Products uses pine logs, freshly cut from abundant, nearby timber tracts, to produce about 20 million sq. ft. of 3/4 in. board annually.

Before flaking, the logs are debarked and the bark is fed into a hammermill to be ground up for mulch. The mulch, either bagged or in bulk, is marketed through a sales agency.

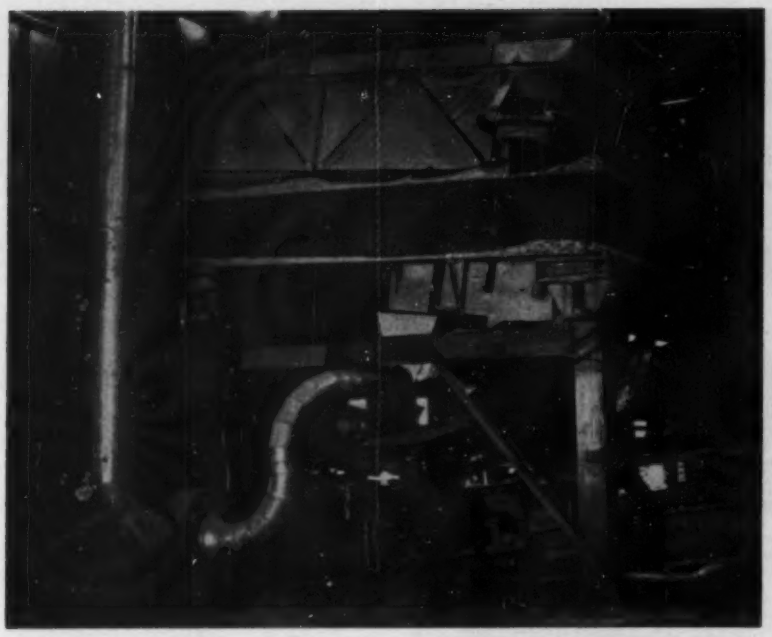
The firm also utilizes the dust produced by its double sanding process. Sander dust is processed into wood flour by means of special grinding equipment and sold in bulk.

Another way of lowering operating costs has been made possible through the installation of a wax storage tank. Now Gray Products purchases the wax emulsion it uses as a moisture inhibitor in bulk, eliminating the more costly purchasing and storing in drums.

In the pulpwood storage area, concrete paving helps maintain the razor-sharpness of the flaker knives by protecting the wood from dirt and mud, and a complete system of black-topped roads lowers housekeeping costs.

HAMMERMILL turns bark into mulch which is bagged or sold in bulk by Gray Products Co. in three states and District of Columbia

GRAVITY FLOW brings wax from Gray storage tank into two heating tanks from which it is pumped to blending system



NEW DRYER SCREEN rejects coarse material which is pneumatically conveyed (left) to new flakers for reduction to suitable size and use as fines in Formica Corp.'s flakeboard

Formica Corp. Reflakes Reject Particles For Use as Fines in Three-Layer Board

At Formica Corp.'s flakeboard plant in Farmville, N. C., dryer screens modified to permit a third particle classification, and the addition of two new flakers to the twin production lines, now aid in converting waste to high-quality flake geometry standards for use in the manufacture of board. (See January 1959 WOOD & WOOD PRODUCTS for complete story of Formica's flakeboard operation.)

Originally, the dryer screen in each line contained only medium and fine mesh screens. Coarse mesh screens were added.

During production, flakes small enough to filter through the medium mesh continue on for processing as fines—the fibrous particles which compose the two outer layers of the finished boards. Flakes too large to pass through the medium mesh screen are earmarked as core material. Material which filters through the fine mesh at the bottom of each screen is blown into the plant's boilers as fuel.

The new coarse mesh screens filter out flakes which are too large and uneven to meet process specifications for uniform, void-free core composition. The new flakers reduce this material to a small, uniform size suitable for use in the outer layers of fines.

Prior to this modification, Formica process engineers estimated that between 4% and 5% of the flakes entering the dryer screens were classified as too large or uneven for processing, and the rejected material, or waste, went up in smoke.

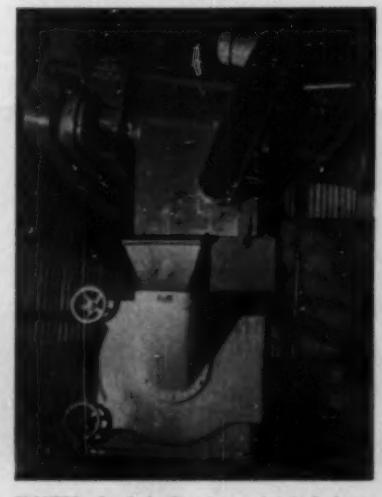
The new flakers perform another important job at Formica which helps maintain a correct balance of material for consistent board quality. Due to the flexible properties of the fresh pine wood used in the production of three-layer board, the ratio of flakes and fines varies. Exceptionally dry wood produces a larger percentage of fines than high moisture content wood.

The flakers enable some of the flakes normally used in the core to be converted, when needed, into fines for the board surfaces. When the flow of the fines has to be boosted, a portion of the flakes classified by the medium mesh screen in the dryer screen is diverted from the flake surge bin and pneumatically conveyed into the flakers.

Equipment Used in Waste Utilization Programs
(Circle number of item on which data is desired in coupon on Page 163.)

(Gray Products Co., Inc.)
(1218) Hammermill and attrition mills ..... Jeffrey Mfg. Co.
(1219) Bagging Equipment .....Cortelo Co.

(Formica Corp.)
(1220) Dryer Screens .....Orville Simpson Co.
(1221) Flakers....Pallmann Pulverizers Co., Inc.



FLAKERS also help Formica maintain balance of flakes and fines for consistent three-layer board quality

REDUCED AND RECLASSIFIED material continues along Formica production line to fine surge bins and resin mixers

DIE SHOP, important part of Masonite Corp.'s hardboard fabricating operation, is manned by skilled tool and die makers working with latest precision equipment. For customer convenience, ample die blank stock with predrilled holes is maintained for individual adaptations

How to Be a Hero With Your Customers

Wood wins as creative salesmen, designers, engineers team up to solve all kinds of problems in this hardboard fabricating operation

A MAJOR APPLIANCE manufacturer is trying to reduce his costs on a 70 cent metal component. You put your engineers to work and come up with a hardboard replacement that costs him only 33 cents. He saves 37 cents each on some 400,000 units produced in a year. Small potatoes? Not when you're talking that kind of money and when your hardboard product gives him even more than this substantial dollar saving—no rust, no metallic rumbling, less weight, less freight. You're a hero —and wood wins another skirmish in the competitive battle!

That's only one of hundreds of examples of topnotch sales engineering which have helped the Fabricators Division of Masonite Corp., with plants in Cincinnati, Elizabeth, N.J., Thomasville, N.C., and Los Angeles, to build up one of the top creative selling enterprises in the wood field.

From R. A. Bicknell, general manager of this chain of fabricating operations, down to the men along the diversified production lines in the four plants, every member of the team is constantly on the alert for new ways to meet the exacting demands of a widely varied clientele. And they are

FABRICATION of most panels starts at automatic air-actuated trim-saw, specially designed for stock up to 72 in. wide. Retractable saw, special hold-down device, dust removal are featured

CUT-TO-SIZE department specializes in close tolerances, and is equipped with two straight-line ripsaws and battery of latest design cutoff saws

VARIETY OF BORING OPERATIONS is performed on this battery of multiple spindle units

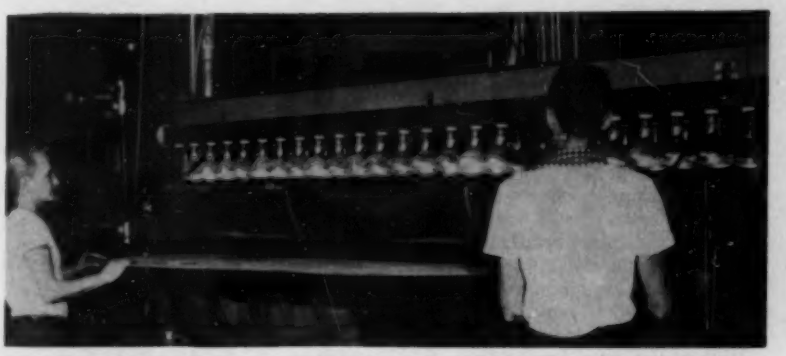
LAMINATED HARDBOARD component is routed for automatic bowling pinsetters here. Circular cutouts are used for other items

as adept in using metalworking equipment as in operating conventional woodworking machines.

From a fancy K.D. doghouse to intricate compound curved chair backs, they daily turn out hardboard items fabricated to the specifications of a broad area of American business.

Shaping, laminating, graining, or just spraying or roller coating, they can meet virtually any finished product requirement. Boring, ripping and cutting to size, countersinking, punching and routing, they turn out simple or complicated pieces by the thousands or well up in six figures. And customers' names on the purchase orders and job sheets seen at every operation are virtually a who's who of manufacturers' names that are household words throughout America.

They make some items of hardboard laminated up to 2 in. in thickness. If need be, they'll attach hardwood pieces to a hardboard panel. For furniture and cabinet firms they turn out laminated casegoods panels, drawer parts, cores and other items. For the appliance people they produce, in a single punching, intricate TV chassis bases and backs, hi-fi cabinet parts, record player motor mounts, radio



INFRARED LAMPS are used in bending operation. Board is soaked, clamped around platen, and heat is applied to dry and set in permanent form, allowing for slight springback

ONE-MAN SILK SCREENING department is compact, conveyorized operation with processed pieces automatically returned to stacking position behind operator

MACHINE PUNCHES 192 holes at once in 4 x 48 ft. area, moving board automatically to position for next series of holes

PRECISION PUNCHING is done on variety of punch presses with capacities ranging from 5 to 300 tons on 5 to 10 ft. brake presses

FINISHING DEPARTMENT offers spraying, roller coating, graining and infrared drying in efficient, conveyorized setup for coating stamped parts or various size panels

backs, parts for automatic washers.

They produce prefabbed cupolas made of hardboard and aluminum; poultry nests that stimulate setting, and mink separators that keep minks healthy and protect their valuable skin; valve flange protectors and reel ends; dry battery ends and electric bulb trays; display boards, stamped playpen bottoms and toy parts; vital parts for bowling's remarkable automatic pinsetters; air conditioner sleeve kits; and other cut-to-order parts.

Within the past few months this versatile fabricating operation—which sets a pattern for many other wood industry activities by never making anything until its alert sales engineers have gone out and learned by studying the customer's problem what can be done to help him—has been augmented by its Cincinnati unit's transfer into large quarters. It's a modern, clean, well-lighted and comfortable plant which provides 60,000 sq. ft. more working area than the branch's former home.

Fork lift trucks move almost unnoticed in and out of work areas, up and down roomy aisles, and between factory and warehouse. However, by the very nature of this "job shop" business, there is a minimum of mechanization and no conveyorization except in the finishing and silk screening departments. No two orders are alike and quantities vary so much from order to order that any approach toward "automation" seems out of the question here. Yet the work flows smoothly from station to station without disorder or confusion.

There is ample storage space both inside and on the yard, and seven railroad cars can be loaded or unloaded at once on the warehouse siding. As in the other three plants, abundant inventories of the various types, sizes and thicknesses of hardboard are carried at all times so that any customer's special requirements can be filled in a hurry.

Every job turned in by the sales department goes through design and engineering and is accompanied out into the shop by its own detailed cutting diagram and specifications sheet. And the vitally important die shop is manned by a crew of skilled tool and die makers working with the most modern facilities obtainable.

To keep the operation going at top efficiency, General Manager Bicknell, himself an ex-Masonite Corp. salesman and district manager, heads up a team of experienced plant managers consisting of Roger Martin at Cincinnati, Arthur Reid at Elizabeth, Robert Huss at Thomasville, and John Nunn at Los Angeles. They in turn are backed by key men whose service in the organization ranges in most cases from five to 14 years. The rest of this exciting story of creative wood product sales and engineering is told in the accompanying photographs.

COMPLETE RANGE of hardboard types, sizes and thicknesses is stocked in big warehouse inventories at all four plants of Masonite Fabricators Division

Some Equipment and Materials Used in Masonite Fabricating Operations

(Circle number of item on which data is desired in coupon on Page 163.)

(1222) Straight-line ripsaws....G. M. Diehl Machine Works
(1223) Cutoff saws ..C. O. Porter Machinery Co.
(1224) Shaper .....Onsrud Machine Works
(1225) Bandsaw .....Tannewitz Works
(1226) Multiple borers .....B. M. Roof Co.
(1227) Laminating press .....Handy Mfg. Co.
(1228) Portable router .....Stanley Works
(1229) Spray equipment .....DeVilbiss Co.
(1230) Infra-red ovens.....Dry Clime Lamp Co.
(1231) Finishing materials...Interchemical Corp.
(1232) Adhesives .....H. B. Fuller Co.
(1233) Steel strapping...Acme Steel Co.; Signode Steel Strapping Co.
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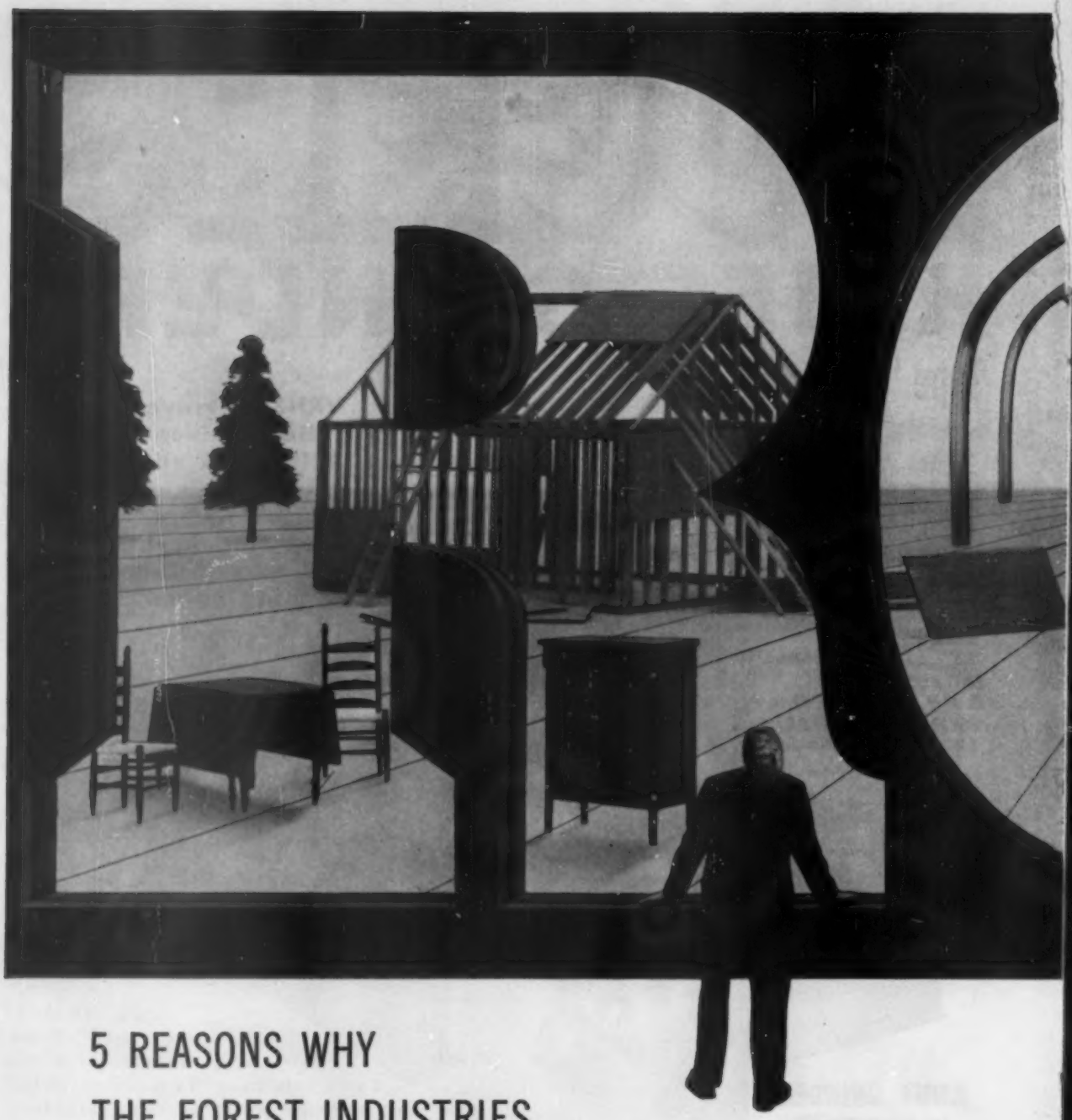

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"Finishield" Aids Natural Wood Veneers Market Fight

New system, plus publicity, advertising, sales promotion and research, helps protect genuine hardwood product markets

By E. HOWARD GATEWOOD
Executive Vice-President
Fine Hardwoods Assn.

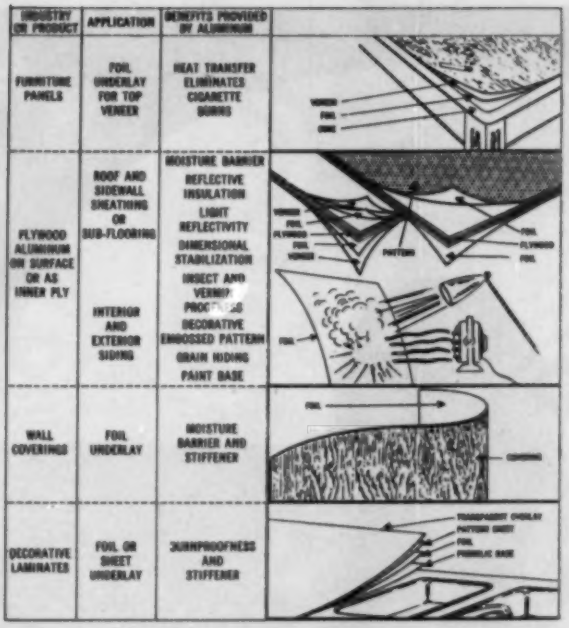


CHART shows areas where "Finishield" process may be used. Below: Display shows typical "Finishield" construction

BUILDING MARKETS for natural wood veneers is the theme of a continuous promotion beamed at the consumer, the retail salesman, the architect and the interior designer by the Fine Hardwoods Assn.

Probably the most dramatic and the greatest competitive answer to the encroachment of imitation and synthetic materials is the recently announced "Finishield" process. Introduced at the 1960 N.A.F.M. Fair after an intensive research project carried on by the association in cooperation with Aluminum Co. of America, Polymer Industries, and leading finish manufacturers, the process, we believe, answers the challenge of high-pressure plastic laminates for the furniture industry.

The "Finishield" process – already going to market in major furniture lines–gives manufacturers the opportunity to offer their customers all the beauty, depth and authenticity of genuine hardwood on all surfaces, with all of the resistance to cigarette burns, abrasion and solvents claimed by substitutes, at less cost.

Our association has employed a trained specialist to assist furniture manufacturers in installing the "Finishield" process on production lines. We estimate that all the materials for a "Finishield" 3/4 in. top will cost the producer about 63 cents per foot when a polyester finish is used, or 59 cents per foot with an epoxy finish–a material saving of 22 to 26 cents per foot over the cost of a comparable plastic-surfaced top.

Believing that the wall paneling and other hardwood veneer industries as well as the furniture industry are suffering from deceptive practices used in merchandising imitations, the association has sponsored in the Senate and House of Representatives a "Decorative Hardwood or Imitation Hardwood Products Labeling Act" which will insure accurate labeling and advertising and so restore public confidence. It's expected that this bill will be acted upon by both houses when Congress reconvenes next month.

Another project of our association in the field of education is a program of lectures, begun this fall and continuing throughout the winter, to present the hardwood story in 25 architectural colleges from coast to coast.

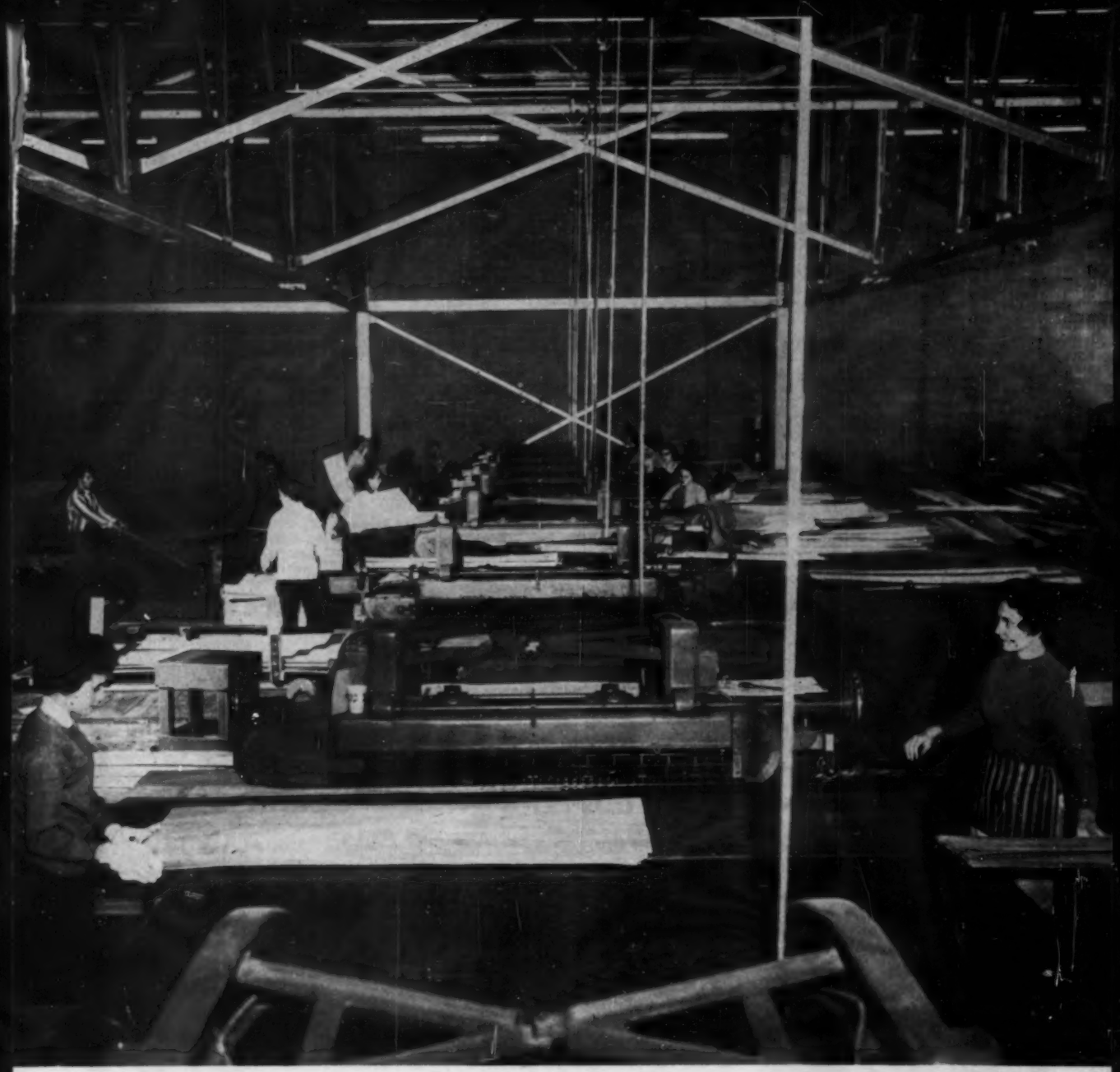
A forthcoming eight-page, full color brochure designed to assist the architect in selecting, specifying and buying hardwood interiors will be inserted in the 1961 issue of Sweet's Architectural Catalog, and an additional 20,000 copies of the brochure will be distributed by mail.

The association has also donated 2,000 copies of the "Fine Hardwoods Selectorama" to the American Institute of Architects for use in their "Architect in Training" program. Other educational booklets, such as "Ten Most Frequently Asked Questions About Fine Cabinet Woods," "How to Write and Talk About Fine Hardwoods," and "Fine Furniture Woods," have been distributed to thousands of retail and wholesale furniture salesmen, editors, decorators, students and consumers.

Retail furniture dealer sales clinics, sponsored by the association in major cities over the country, have presented the fine furniture woods story to retail salesmen in a series of interesting and dramatically presented seminars.

A new sound and color motion picture, "Treasures in the Home," is now enjoying tremendous consumer coverage on television sustaining time in the U.S. During the past eight months it has been shown by 97 TV stations to a total audience of over 3½ million persons.

Use Reader Service Coupon on Page 163.▶



Diehl down the line. Glancing down the veneer splicing production line of the Roddis Lumber and Veneer Company of Canada Ltd., subsidiary of the Weyerhaeuser Company, Sault Ste. Marie, you see eight reasons for Roddis' quality plywood. Eight Diehl Tapeless Veneer Splicers are hard at work here, justifying Roddis confidence in their ability to do a more accurate, high speed splicing job. Woodworking men have learned that Diehl Tapeless Splicers eliminate costly taping operations . . . produce tight, invisible splices . . . operate simply, accurately and positively. Discover the facts for yourself; write for Bulletin VS-960, or call your nearby Diehl representative for a demonstration of any machine in Diehl's complete veneering line—including cutters, jointers and presses.

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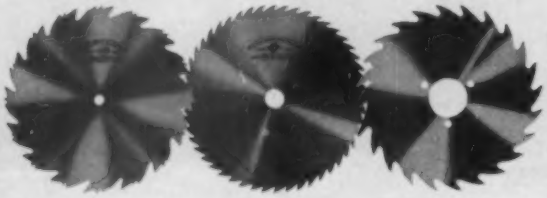

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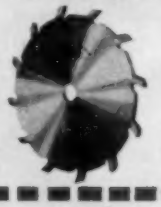

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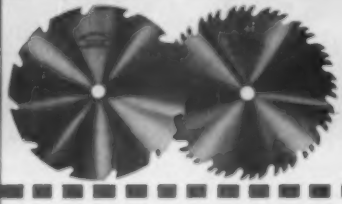

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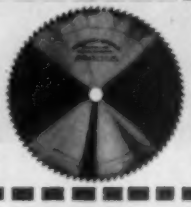

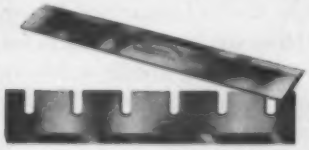

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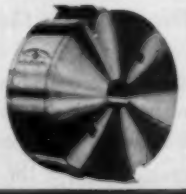

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Automation Offers Plywood Cost Control

New glue spreading and layup procedures plus continuous pressing equipment adaptable to present mill setups hold key to reduced manufacturing costs and increased income

AUTOMATION offers the plywood manufacturer an effective means of combating spiraling labor, raw material and equipment costs in order to compete more profitably in the marketplace. Many producers are already reaping the benefits afforded by applying automation principles to their finishing operations, and recent technical developments indicate that automation for the manufacturing phase of the industry is close to being a reality.

At the 1960 meeting of the Forest Products Research Society, two adhesive manufacturers, an industrial engineer and a machinery manufacturer discussed how the new developments can be adapted to present mill setups.

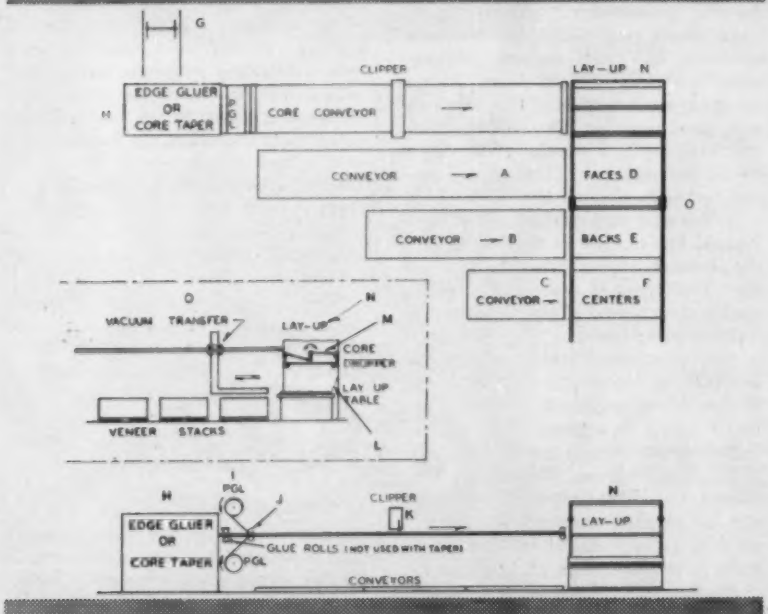
The decision to automate must be weighed in terms of reducing costs and increasing income. Charles A. Herstrom, manager, Industrial Engineering & Contracting Co., Portland, Ore., stressed that any change in equipment, methods or instrumentation to be economically sound, must show an economic benefit over and above a mere manpower saving.

Six points to consider when examining the merits of an investment, based on previous costs, include:

1. Overall effect on profits, considering taxes and depreciation.
2. Volume of profit and rate of return on investment.
3. Relative age of plant and level of original investment.
4. The plant's profit position—today and in the future.
5. The overall estimated supply of raw material compared to the useful life of existing and proposed equipment.
6. Manpower or wage savings.

Automation best succeeds when there are beneficial side effects which are measurable. The investigation of automation potentials must include a careful review of other operations ahead and behind to see if there will be an effect on them and if it will be in the best interest costwise.

An investment for automation should be made only if the volume level is raised.



IN PROPOSED film glue layup scheme faces, backs and centers are edge-glued to standard 50 x 99 in. or 50 x 100 in. panel sizes

Gluing and Layup Problems

The essential steps of glue spreading and layup are wasteful of manpower and expensive in terms of unit cost in plywood manufacturing. Here are two proposals for automating these operations and providing veneer preparation savings in that all sanded common constructions could be made with a single veneer thickness:

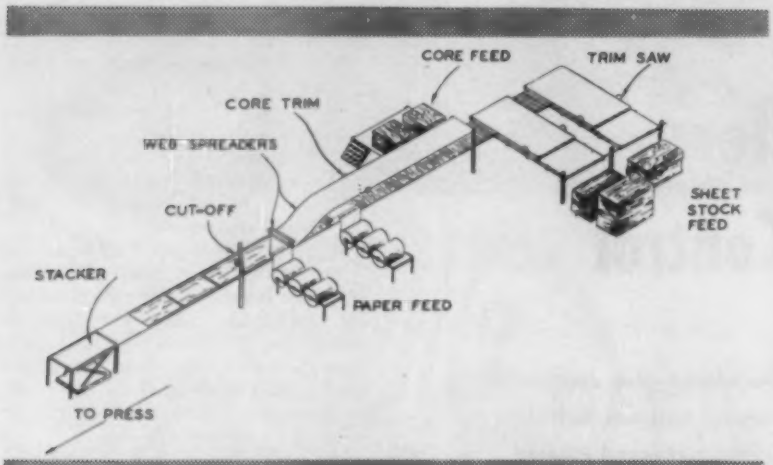
In a film glue panel layup system, described by Russell K. Stensrud, Pacific Northwest Division, Reichhold Chemical, Inc., the core in conventional 3-ply panels or the centers in conventional 5-ply panels can be doubled up and laminated parallel to the grain to produce thick panels with thinner-than-usual veneer thickness. The same holds true for the construction of sheathing plywood.

In a proposed layup scheme (see accompanying diagram) faces, backs and centers edge-glued to standard 50 x 99 in. or 50 x 100 in. size are placed on separate conveyors, labeled A, B and C in the diagram. Gravity rolls carry them automatically to the automatic scissors lift positions (D, E and F).

When one of the stacks (D, E or F) is depleted, the vacuum transfer mechanism (G) stops, the proper scissors lift returns to its bottom position, the braking mechanism on the gravity roll conveyors releases the next load which moves forward onto the scissors lift.

Core fed into this system advances into either an edge-gluing or taping section and passes through a set of ripsaws which square up the edges of the core before they enter the taper.

The core advances into the taper section where it moves transversely through the small crowder sections which apply a double gummed tape to



PROPOSED wet-web panel layup process utilizes continuous core material and wet adhesive on carrier sheet which is applied immediately to veneers

top and bottom of the core at the extreme ends of the pieces of veneer. The outside face of the tape is not moistened until after the tape has been firmly pressed onto the corestock.

Just beyound the taper, the unmoistened side of the gummed tape is moistened and a sheet of film glue comes into contact with the veneer from a roll suspended above and below the 3-ply assembly. Squeeze rolls finish the tacking operation, leaving a continuous stream of jointed edge-fastened core veneer with film glue on both sides.

In the layup scheme depicted, the 3-ply core assembly is clipped to panel length and travels by conveyor to the layup station (L, M, N). The core is automatically transferred into the core-dropper (N). As the core reaches the extreme downstream end of the core-dropper, it contacts a limit switch which is energized only when the vacuum transfer unit (O) is out of the drop position. This switch actuates a cylinder on toggle (M) which drops the 3-ply core assembly onto the layup, guided into position by the slanted back board (I).

The vacuum transfer (O) lays a face on the layup table first. The core is positioned while the vacuum transfer goes back after a center, which it lays on top of the core. While the transfer is returning for the back, another core assembly is positioned by the core-dropper. When the back is laid, one panel is complete for transfer to a packaging section.

Here the panel is held down momentarily while an automatic stapler drives two or three staples in each edge of the panel to hold the package together for easy press loading.

In a wet-web panel layup system, as described by Henry M. Preusser, Adhesive, Resin & Chemical Division, American-Marietta Co., wet adhesives are applied to a carrier sheet or web which is applied immediately to the veneers. The system permits the use of high molecular weight adhesives.

In the wet-web process, sheet stock is fed perpendicular to the motion of the main conveyor. (See accompanying panel layup illustration.) In completing this transverse motion, faces, backs and centers, as desired, are end-trimmed to a dimension slightly greater than the finished panels.

Trimmed sheets are accelerated down the conveyor end-to-end. When 3-ply panels are made, paired backs and faces move consecutively toward the glue applicator.

As sheets pass under the wet-web spreader, the web carrier, impregnated with glue, is laid down. Above the sheet stock section of the conveyor is a core crowder. Dry core is fed, end-trimmed and carefully let down on the first wet-web. Thereafter, a second wet-web goes on top of the core.

In the next step parting of the continuous line of core at the juncture of the sheets is accomplished by a flying saw. Two types of assemblies are created and conveyed along for laying up 3-ply or other panels.

An automatic stacker lays the assemblies on top of one another in the desired panel sequence until one layup, a group or a press charge is obtained, depending on system used.

Ralph A. Sullivan, Washington Iron Works, stated that plywood producers can adapt press equipment currently used by particle board and hardboard mills to reduce waste and manpower.

The latest development in automatic pressing is exemplified by units installed recently for a large sheathing manufacturer.

The 30-opening, 4 x 8 ft., side-loading unit has a simultaneous closing device, and an indexing type automatic loader. The complete installation consists of the alternate indexing, 30-opening charger, press, an indexing type unloading elevator with panel ejector, and an automatic hydraulic panel stacker. The completely automatic unit requires only one man to check for possible panel hang-ups.

This type of press, he stated, is suited to the continuous layup systems described.

Charger plates are about 3 ft. wider than press platens, eliminating the chance of precure. When the press opens, the pushbars on all trays advance, pushing all uncured panels forward about 3 ft., where they are in position to deposit on the press platens during the actual charger operation.

At this time, the trays are fowarded by a conventional rack and pinion drive into the press, and the leading edge of the trays pushes the cured panels into the self-declining indexing type unloading elevator.

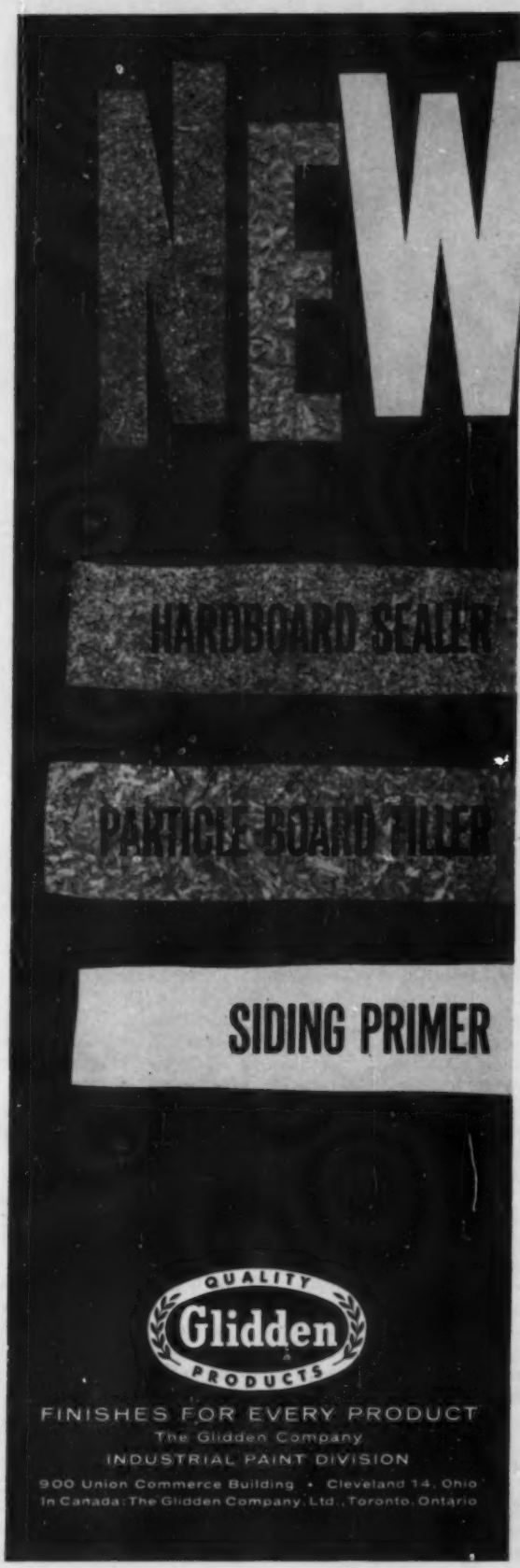
After the trays have advanced into the press, the pushbars advance simultaneously with the retraction of the trays, depositing the uncured panels on the press platen faces. As soon as the trays and the charger assembly have retracted sufficiently to clear the press, the pushbar assemblies are retracted and the charger indexes down one flight, ready to receive the next panel.

One Level Ejection

All panels are ejected from the unloading elevator at a common level onto a declining hydraulic stacker unit which has provisions for three complete press loads. When the declining panel stacker reaches the bottom position, a limit switch returns the stacker unit to a point where the main platform is level with the offbearing conveyor. An air cylinder tilts the stacker platform, allowing the stack to roll off onto the offbearer.

The press operates at extremely high speeds with an approach and return speed of approximately 600 in. per min. and a pressing speed of around 50 in. per min. During actual operation, the total time from the fully open position to full tonnage (on two 3/8 in. panels per opening) is only 17 sec.

Editor's Note. *The foregoing article is digested from a four-part series published in the August, September and October, 1960, issues of* WOOD & WOOD PRODUCTS *following original presentation of the material at the 1960 F.P.R.S. convention in Montreal, Canada.*



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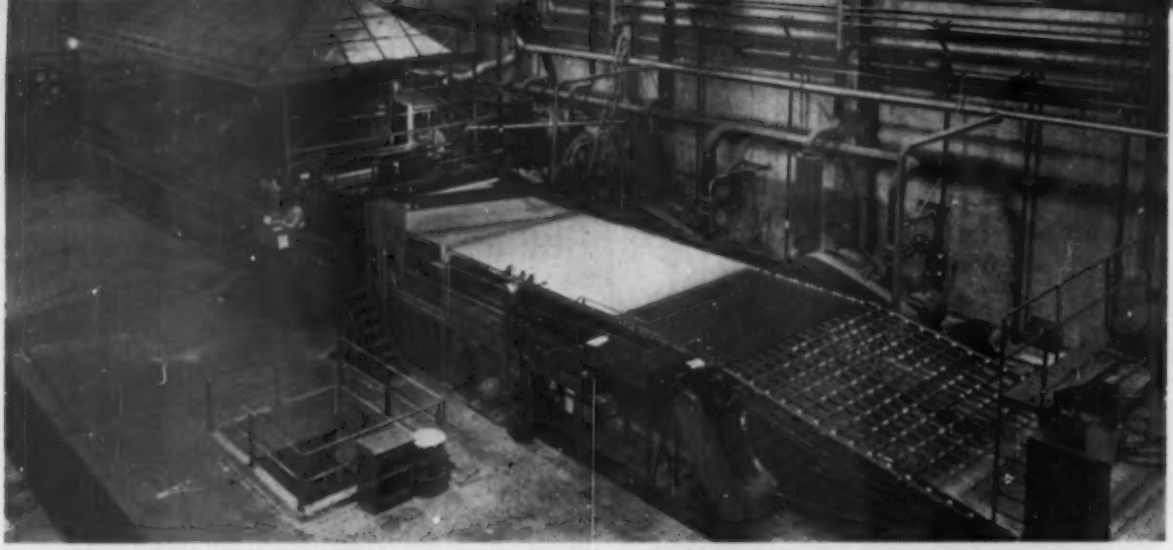

FORMING WIDER-THAN-STANDARD PANELS on conventional machine requires precise placement of mat on carrying screens—one of many problems facing mill managers as they contend with latest hardboard trends

Hardboard Gears Up for Trend to Specialties

Growth of industry, foreign competition forcing vast changes as mills strive to meet varying customer specifications

By O. B. EUSTIS
Plant Manager
Abitibi Corp., Alpena, Mich.

MAINTAINING a maximum daily production of salable hardboard at the lowest possible cost commensurate with safety of personnel, quality of product and preservation of property is the primary responsibility of the mill manager. The trend away from conventional S1S, S2S and semi-dry or dry process boards of uniform specifications as to panel size, thickness and density complicates the mill manager's role.

In the 34 years since the birth of hardboard, we have seen it evolve from a substitute product to a material utilized and specified on the basis of its own merits. Originally, many of the specifications and requirements of hardboard were based on specifications for other materials.

It is common nowadays for certain industrial customers to specify board characteristics which were originally never even considered because the materials for which hardboard was substituted simply could not meet them. The specification of particular board characteristics, together with the ever broadening number of end uses for hardboard, has an important effect upon plant operation and places another burden on the mill manager's shoulders.

While a great deal of hardboard is used in conventional building construction and can be produced to the standard S1S, S2S or dry process specifications, the largest and most rapidly increasing market for hardboard products falls in industrial fields where the board is used in the manufacture of finished products, many of which bear little resemblance to the original hardboard.

The specialized uses have required a much broader product line in most mills and have also required a very close correlation between production, scheduling and customers' orders. It's not unusual to find that different customers producing the same or similar finished products from hardboard will request different characteristics.

In addition to more detailed customer specifications, the broadening end uses of hardboard necessitate a tremendous increase in the thickness and density ranges being produced. Each of these developments presents its individual production problems.

Assuming that a given mill can produce a non-standard board and potential workflow speeds have been found adequate to give an acceptable dollar return per hour, what then are some of the problems confronting the mill manager?

To produce a thin board—any board with a thickness less than 1/8 in.—the first problem to arise is thickness variations, and for a 1/10 in. board a variation of .030 is a 30% error. Thickness variations may be caused by board weight, platen temperature, platen parallelism, caul plate thickness and a variety of other factors including the basic variations built into individual press openings.

The production of thin board of sufficiently uniform thickness tolerance requires much closer attention to details which are unimportant in the production of thicker boards. The problem of thickness control is often solved by planing or sanding.

Having successfully pressed the thin board, the next problem confronting the mill manager is handling. In addition to being weaker and more easily damaged than thick boards, thin hardboards are extremely flexible. During production, the operator may find a board ducking down between conveyor rolls, or if the board has to be stood on edge he may find it extremely difficult to guide and sometimes so flexible that it cannot be pushed at high speeds from the back end.

Equipment modifications can readily overcome these problems, but the cost of these changes must be weighed against the potential profit available from the sale of thin boards.

The production of thick boards—over 1/4 in.—confronts the manager with entirely different problems. The

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extra weight is apt to tax the forming capacity of the machine.

In wet process plants stock freeness must be increased to get adequate drainage from the sheet and to permit wet pressing without crushing. On an S2S production line a drying bottleneck is quickly reached because of the difficulty in evaporating water from the very heavy thick fiberboard mat being produced.

The semi-dry process has economically produced thick boards because it is not necessary to resort to the long drying times to evaporate water.

To produce thick boards by the S1S process, in addition to the formation bottlenecks, the operator must guard against disruption of the sheet by the release of large volumes of water at the time pressure is applied. Also, the amount of steam which is released on the wet hardboard press may be so great as to destroy the sheet during the press cycle or upon release of the press.

These difficulties can generally be handled by controlling the rate at which pressure is applied to the sheet and by other changes in the press cycle.

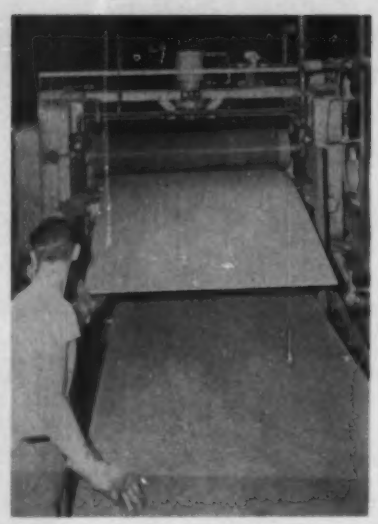
Having successfully pressed a thick, heavy board by any of the three manufacturing methods, the manager is again confronted with a materials handling problem. On automated equipment inertia becomes a serious problem. Starting, stopping or changing the direction of heavy boards requires much sturdier equipment than is available in mills designed to produce 1/8 and 1/4 in. board. If the heavier board is handled by hand, the problem of employee fatigue becomes a very real one.

High Density Problems

Poor mat formation, which may be almost totally invisible and perfectly acceptable in a low density board, may result in so many dark density spots on high density board as to make it completely unsalable. On S2S hardboard, the higher the density, the greater is the hazard of blistering the board on the press.

Low density boards—down to approximately 50 lbs. per cu. ft.—are generally easier to produce than high density boards, but the problem here is one of thickness variation. As density is decreased, the platen temperature effect on thickness increases rapidly. Increasing the temperature reduces the percentage of variation but increases the fire potential, and low density boards catch fire at a lower temperature than high density boards.

In tempering, low density boards will absorb more tempering oil which



LAMINATES and other special finishes are being offered by more manufacturers to meet increasing competition

furthers the potential fire hazard.

On S2S hardboard, the fire hazard immediately after the press release is so serious that it is necessary to drastically reduce press temperatures and lengthen press cycles to attain consistent production.

For very low density hardboards, it may be necessary to install stops on the press to assure an acceptable operation. The use of stops, however, limits the flexibility of the operation because they must be changed for each board thickness.

One of the most serious problems in producing low density board is the tendency of the board to cling to caul plates. The lower the density the more it clings, and the more it clings, the harder it is to get the board out of the press before it catches fire.

In recent years there has been an increasing demand for hardboard in sizes larger than the conventional 4 x 16 ft. Larger presses are much more expensive and all auxiliary equipment must be modified to handle the larger boards. Generally the changeover is such a major one as to be practical only in new installations.

Even to produce boards only a few inches larger than standard on conventional presses, the mill manager must enforce a strict routine that means a new training program for existing personnel. Greater skill means higher wage rates, and to justify this the mill manager must increase his production per man-hour or produce a product with a higher sales value.

If he is producing S1S board, he will find it necessary to be more precise in the placement of the mat on the carrying screens, and he is constantly faced with the possibility of one corner of the sheet hanging over the edge of the screen, causing a cull or lost time.

On any hardboard press the platen temperatures tend to be less at the edges than in the center. The wider the sheet and the nearer the edge of the sheet comes to the edge of the press platens, the greater is the thickness variation because the edges will tend to run thick due to the lower platen temperatures there. It may be necessary to insulate the edges of the platens to prevent heat loss.

In the fabricating department it will be necessary to get by with less edge trim than normal. This means careful placement of the board when feeding the trimmers and more careful handling throughout the process to avoid edge bruising.

The changes discussed are the natural result of the growth of the industry. The trend toward a broader hardboard line, combined with foreign competition which makes the production of the simple basic boards less profitable, means that largely the industry is becoming a specialty producer.

Hardboard Finishing

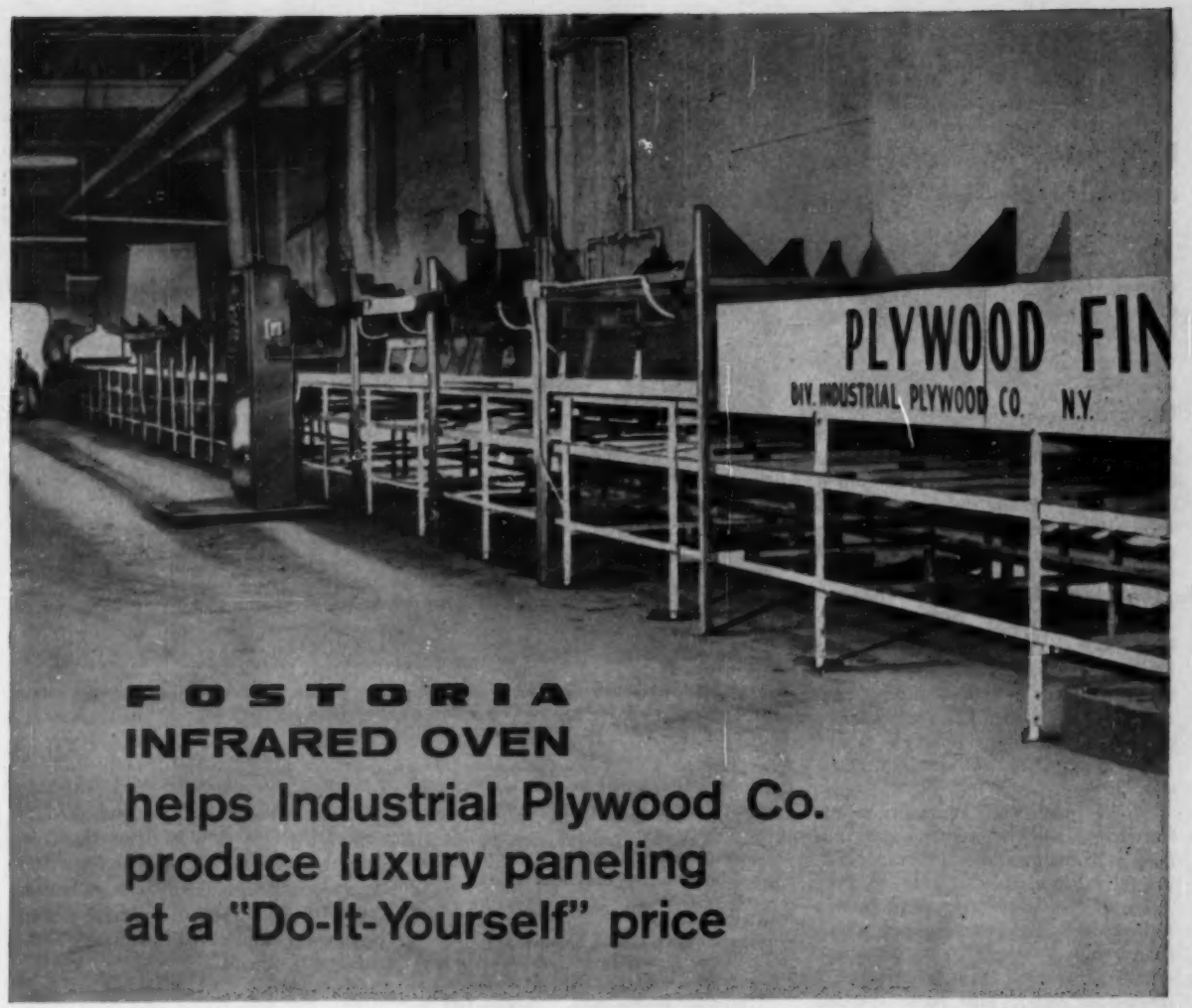
Special enamel finishes, woodgrain finishes, plastic laminates, etc., which were formerly applied to hardboard by users, are now being applied by the manufacturer. Printing presses, paint applicators, dryers, etc., are being installed in hardboard plants at an increasing rate.

Each of these prefinishing facets introduces many new problems to the mill manager, ranging from a dust-free atmosphere for a printing operation to more detailed and expensive packaging to protect the specialty items.

The whole field of specialization poses a tremendous challenge not only to the mill manager, but also to the research men. The industry is moving so rapidly that continuous lab and pilot plant research is absolutely necessary for survival.

The results of research are indicators which must be proven on the mill manager's big production equipment. This proving process is expensive and not 100% compatible with the manager's responsibility of producing the most board at the lowest cost. Yet it must be done, and the mill manager who dodges it is doing himself and his company a disservice.

Editor's Note. *The foregoing article is condensed from a paper presented by the author at the 1960 meeting of the Forest Products Research Society in Montreal, Canada.*



FOSTORIA INFRARED OVEN helps Industrial Plywood Co. produce luxury paneling at a "Do-It-Yourself" price

Almost everyone can now enjoy the luxury of wood paneled rooms in home or office—thanks to costly-looking but inexpensive plywood panels produced by Industrial Plywood Company, Inc., Jamaica, N.Y., on a continuous finishing line in Brooklyn.

A 73-foot long Fostoria infrared oven is a key feature of the line, which handles the complete job including drying of the lacquer at speeds of about 35 fpm . . . and is easily controlled to produce the exact temperatures needed.

High-speed drying with a Fostoria oven also reduces rejects for Industrial Plywood, since dust and dirt, which can mar freshly-finished panels, have very little time to settle on wet surfaces. In addition, low velocity air movement, possible only with infrared, keeps dust to a minimum..

Drying results with the Fostoria oven are completely uniform and reproducible. The right combination of wood, finish, conveyor speed and oven temperature produces excellent results every time. Fostoria's patented reflector design, with clear infrared lamps, directs heat instantly and uniformly to the panels—stops heating as soon as the power is off.

The use of efficient, economical infrared heat has helped Industrial Plywood to drastically reduce the price of paneling—and open up a big new "do-it-yourself" market. Fostoria—the world's largest manufacturer of infrared ovens—can show you how to reap many comparable benefits. Write or call for an estimate based on your needs and for a copy of "Radiant Heat—Applications Unlimited." Infrared Division, Fostoria Corporation, Fostoria, Ohio.

FOSTORIA

Ideas From the Field

New methods of board and panel processing and fabrication reported by representative producers and users

Complete Wood Grain Finishing Operation Takes 35-50 Minutes

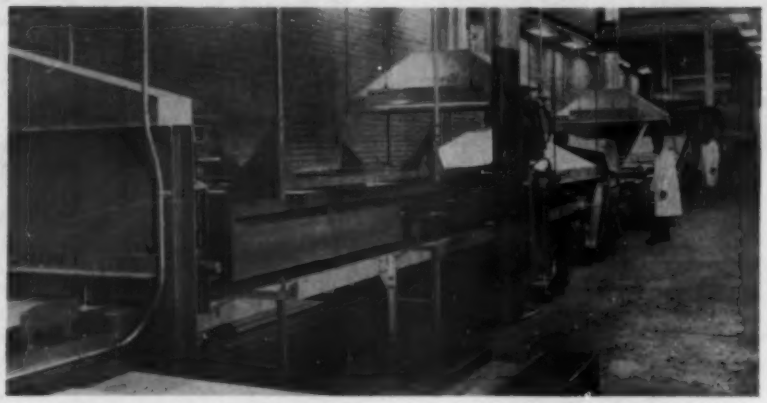
THROUGH MECHANIZATION, U. S. Plywood Corp. applies a sealer and two base coats to plywood panels, dries these coats, prints multicolor wood grain patterns, top-coats the printed surface and dries this finish in only 35-50 min. The entire line, which consists of counterflow and high-velocity ovens, multideck conveyors and ovens, plus 11 specially designed transfers is set up in a room only 115 x 128 ft.

Preheated panels are sealed and base coated. Both counterflow and high-velocity ovens are used to dry the base coats to reduce drying time and conserve space. The high-velocity oven sets the base coats in about 11/2 min. after initial counterflow oven drying.

Dried panels are manually transferred from the high-velocity oven outfeed to the three-color gravure printing infeed line.

Directly after printing, a protective top coat is applied to the panels which then make a single pass through a counterflow oven and proceed to a three-pass oven. The latter consists of an upper counterflow compartment, a middle counterflow and high-velocity section and a lower cooling compartment.

Panels emerge at room temperature for final sanding and buffing.



MANUALLY FED panels are brushed, heated, sealed, sanded and first base coat is applied on initial section of U. S. Plywood Corp.'s new plywood panel finishing line

(Manufacturers)

(1235) Ovens, conveyors, transfer units ..... J. O. Ross Engineering Div., Midland-Ross Corp.
(1236) Roller coaters ..... Gasway Corp.
(1237) Grain printing units.... Hamant Tool Co.
(1238) Infrared preheating oven.. Fostoria Corp.

Dry Fiber Felted Into S2S Hardboard

BOWATER BOARD CO. uses a dry-felting process which utilized high-velocity air to convey chips and wood fibers to its S2S hardboard plant at Catawba, S. C. The plant has a production capacity of 160 million sq. ft. per year.

Screened chips are pneumatically conveyed to two 200-cord silos for storage until the cooking and refining operation. The flow of chips from the silo to surge bin to cooker is regulated to coincide with the 5 min. retention time of chips inside the cooker. Cooking is accomplished at a steam pressure of 150 p.s.i.

From the cooker the chips are fed by special distribution and metering screws into four double-disc refiners to be reduced to fiber form.

Heated air swept through the refiner case conveys the fiber into high temperature flash drying equipment. Dried fiber is discharged into mechanical air separators for classifying.

Five metered streams of fiber are felted continuously into the desired mat width and thickness.

After prepressing, the consolidated mat is edge-trimmed and sawed into required lengths for loading into the 20-opening simultaneous closing hot press.

Pressed boards are cooled and their moisture content is adjusted to final end use, prior to sizing to customer specifications and shipping.

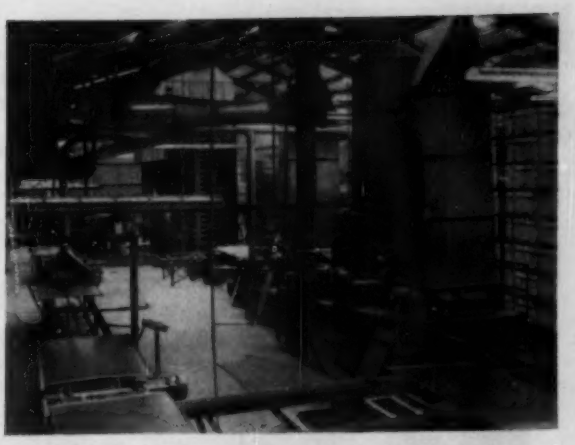
FOUR double-disc refiners reduce chips, steamed 5 min. at 150 p.s.i. in cooker, to wood fiber at Bowater Board Co.

(Manufacturers)

(1239) Cooker ..... American Defibrator, Inc.
(1240) Double-disc refiners .... Bauer Bros. Co.
(1241) Felter, precompressor, mat cutoff and trimsaws ..... Washington Iron Works
(1242) 20-opening simultaneous closing hot press Washington Iron Works

▲Use Reader Service Coupon on Page 163.▶

PARTICLES and fibers, after rotary drying are air-conveyed to two specific gravity, mechanical-pneumatic separators for classification at Haskins Wood Products, Ltd. particle board mill



ON PRODUCTION FLOOR cauls enter forming section (right) and carry compacted mat to press charger (rear) after passing through weighing station where mat is accepted or rejected

Particles Classified by New Method

BOTH PARTICLES and semi-fiber are classified after being dried together, by two mechanical-pneumatic, specific gravity separators at Haskins Wood Products, Ltd., Swisshome, Ore. The plant can produce both homogeneous and three-layer boards in thicknesses ranging from ¼ to 1½ in. and in densities of from 40 to 60 lbs. The layout is also adaptable to flakeboard production.

Green shavings are conveyed directly to a self-discharging surge storage bin, from which they are discharged as needed into a screw conveyor for delivery to two hammermills (for particles) and to an attrition mill (for semi-fiber).

After three passes through an oil-fired, flash-type rotary dryer, both particles and semi-fiber are air-conveyed to the two mechanical-pneumatic separators.

Separated into fines and core particles, each material goes to its respective storage bin for blending prior to three-layer board mat formation.

Resin-coated core particles, carried by a bulk flow conveyor to the forming machine are metered onto conveyorized cauls. A urea binder is blended with these particles for the production of three-layer board. Semi-fiber, blended with a phenolic binder, is similarly conveyed to form the face layers of the board. Formed mats are prepressed to facilitate hot press loading.

The traveling cauls move the mats to a rack-type press charger, into which they are positioned one-at-a-time. After discharge from the 20-opening press into a rack-type receiver, the cauls carry the boards, one at a time, via a cross-transfer to a vacuum separator.

(Manufacturers)

(1243) Bin dischargers ..Stephens-Adamson Co.
(1244) Dryer .....Heil Co.
(1245) Hammermills, attrition mill .....Bauer Bros. Co.
(1246) Specific gravity separators .....Bauer Bros. Co.
(1247) 20-opening hot press ...G. Siempelkamp & Co.
(1248) Press charger, receiver ...American Mfg. Co.
(1249) Pneumatic systems .....American Sheet Metal Works
(1250) Design & Engineering .....MacDonald Associates, Inc.

Rigid Controls Mean Consistent Quality

RIGID CONTROLS during production at its North Bend, Ore., plant, permit Weyerhaeuser Co., Silvatek Div. to offer a floor underlayment performance guarantee on its particle board.

Uniform high standards are maintained by a combination of modern automatic production machinery controls, selection of raw materials, skilled operators, extensive laboratory checks and final visual inspection.

Raw materials are rated for moisture, particle size, quality and mix. Control panels maintain exact pressure, temperature and timing during mat pressing and sander controls assure a caliper tolerance of plus or minus .010 in. Each control meets or exceeds use requirement standards.

The performance guarantee spells out correct procedures for applying the S2S particle board as a floor system element.

Paper-Overlaid Lumber Makes Economical Modular Panels

PAPER OVERLAID lumber panels, combining the properties of lumber with the efficiency and economy of modular panels and developed by the Western Pine Assn., are now produced by five mills—Southwest Forest Industries, Inc., Phoenix, Ariz.; Boise Cascade Corp., Emmett, Ida.; Intermountan Lumber Co., Missoula, Mont.; Tarter, Webster & Johnson, Inc.; and Setzer

CALIPER AND SCALES test thickness and density of rough boards coming out of press, part of Weyerhaeuser Co.'s performance guarantee program

IMPROVES
Dry Process Boards

BAUER
SPECIFIC GRAVITY
SEPARATOR

Through a unique combination of mechanical and pneumatic action, this Bauer unit separates dry materials by specific gravity and specific surface. In the production of particle board, hard board, flake board, molded particle board, etc., it offers these typical advantages:

- Improves surface appearance by controlling size of particles used
- Increases suitability of board for application of laminants
- Reduces rejects
- Efficiently separates fines to be used for surface coating
- Helps conserve resin on certain type boards
- Removes tramp metal, rocks, etc.
- Two sizes are available—42" and 72" diameter

For complete information, contact THE BAUER BROS. CO., Springfield, Ohio.

Bauer

Forest Products, Sacramento, Calif. Called sheet-board, it is manufactured from No. 4 common and better or regular sheathing lumber with the aid of finger jointing and edge gluing techniques and equipment.

Lumber panels are glue bonded between two sheets of kraft paper which weighs, at least, 38 lbs. per 1,000 sq. ft. Species currently being used include Ponderosa pine, white fir, Douglas fir, Idaho white pine, sugar pine, larch, lodgepole pine, red cedar, incense cedar and Englemann spruce. Current output is based on 2 x 8 ft. or 2 x 16 ft. modules. Thickness is generally 25/32 in., and resawn lumber is used in 11/16 in. thick sheetboard by some mills.

Packaging Facilitates Particle Board Handling

THE PACKAGING procedure at Haskins Wood Products, Ltd., Swisshome, Ore., protects its particle board quality during storage and shipping.

Sanded boards are strapped in a 2,500 lb. bundle with three steel bands, with 2 x 4's placed underneath to facilitate fork truck lifting, and 1 x 4's placed on top of the bundle to prevent cutting by the steel bands. Both top and bottom of the bundle are covered by corrugated sheets.

CORRUGATED PAPER and 2 x 4's on bottom (1 x 4's on top) help protect steel-strapped particle board bundles at Haskins Wood Product, Ltd., during handling

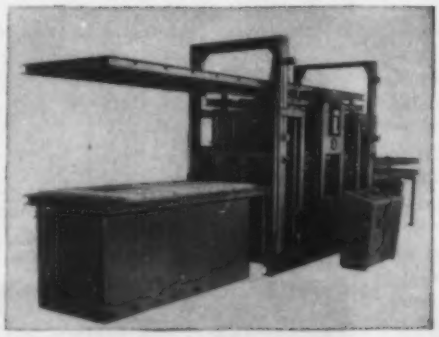
High Speed Wide Board Surfacing

WIDE HARDBOARD surfacing at high speed is accomplished with a 72 in. vacuum bed surfacer at Masonite Corp., Laurel, Miss. The unit permits the surfacing of almost a square foot

Advertisement

90 FULL-SIZE PANELS PER HOUR

NOW POSSIBLE WITH BURKLE PLYWOOD AND VENEER PRESS



Forward-looking plywood plants are talking about an amazing automatic press that turns out plywood and laminated panels faster and cheaper.

The secret of this Burkle unit is continuous flow production. Here's how it is done:

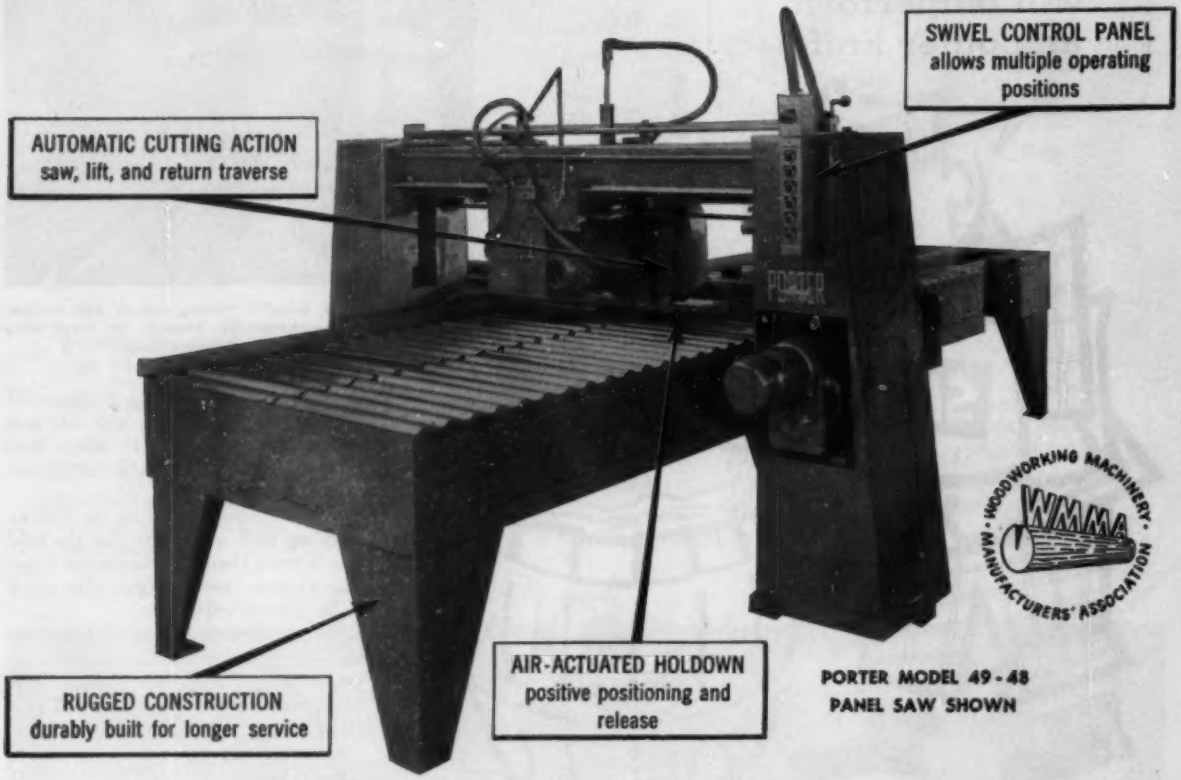
Automatically activated cauls accept work at one end—while at the same time finished panels are coming off the opposite end. The cauls return automatically from unloading position.

Thus, material moves in an uninterrupted, *uni-directional* flow—far exceeding the capacity of the standard multi-platen press. Capability has been proved in use to reach 90 panels per hour.

Not only in America, but internationally, the Burkle press is setting the standard for rugged durability as well as profit-making capacity in both large shops and small.

The Burkle press is capable of pressures up to 350 lbs./sq.ft. It is available in 6 by 10-foot sizes, and is distributed exclusively by the Joyce Research and Development Corporation. The company will furnish detailed information upon request to its New York office at 249 West Merrick Road, Valley Stream, Long Island, New York.

The NEW PORTER PANEL SAW



PORTER MODEL 49-48
PANEL SAW SHOWN

Handles ANY panel width easily, economically, automatically

Compare the specifications on the Model 49 series for yourself. We're sure that you won't find these features anywhere else in a machine at this price . . . automatic operation, controlled from either side—positive grip air actuated stock stops — carriage feeds variable from zero to desired speeds — 1⅛" diameter saw arbor — handles 18" diameter saw blade (standard) — 7½ HP, 3600 RPM saw arbor motor — 2 stroke settings standard — heavy duty construction throughout.

Here is an all new panel saw which offers you automatic handling ease, rugged dependability, and a price unmatched in the industry. It has been designed to cut panels to any length, required thickness, or speed. The Model 49 series features a saw arbor assembly that moves easily through the cut, then lifts clear on the return stroke to eliminate any possibility of stock damage. The carriage rides on ball bearing bushings over hardened and ground steel rods to insure rigid, straight line cutting . . . The Model 49 Panel Saw series, latest in the long line of C. O. Porter **Dividend Designed** machines.

Remember, C. O. is your guarantee of greatest COoperation

C. O. PORTER MACHINERY COMPANY
522 Plymouth Road, N. E., Grand Rapids 5, Michigan

Here's why we're sure . . . Disston Knives are *guaranteed* against cracking due to internal stress . . . reduces down-time and knife replacement. Thanks to the Disston salt bath hardening process, knife edges *stay sharp longer;* means less grinding, more uniform chips.

We'll help you check your knife performance. Disston will supply you with a newly developed series of record sheets that will determine the *actual values* in *any* chipper knife you now use. The figures these records ask for draw out an accurate picture of grinding history, cutting efficiency and total performance of your waste wood chippers.

Our proof is this . . . try a set of Disston Waste Wood Chipper Knives and record their performance, too. We'll bet you now . . . you'll convert to Disston 100 per cent, when you see the results!

Talk to your mill supply dealer about Disston Waste Wood Chipper Knives . . . for a FREE supply of "knife-life" record sheets, write: *Disston Division, H. K. Porter Company, Inc., Philadelphia 35, Pa.*

DISSTON DIVISION PORTER ***H. K. PORTER COMPANY, INC.***

PORTER SERVES INDUSTRY with steel, rubber and friction products, asbestos textiles, high voltage electrical equipment, electrical wire and cable, wiring systems, motors, fans, blowers, specialty alloys, paints, refractories, tools, forgings and pipe fittings, roll formings and stampings, wire rope and strand.

WIDE BOARDS leaving vacuum bed surfacer are automatically stacked on truck atop scissors lift at Masonite Corp.

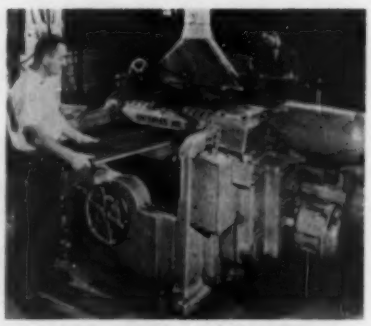
of board per second to a tolerance of 3/1000 plus or minus, and the unit will run 24 hours per day, seven days a week with a minimum of down-time and maintenance.

When running 1/12 in. to 5/8 in. stock up to 5 x 16 ft. in size the feed rate is more than 100 panels per hour. The vacuum feature allows thin stock to be planed with ease.

The tolerance control on the vacuum bed surfacer is effected by means of water-cooled platens. The vacuum holds the stock flat and prevents lifting as the board passes under the cutting head.

(Manufacturer)

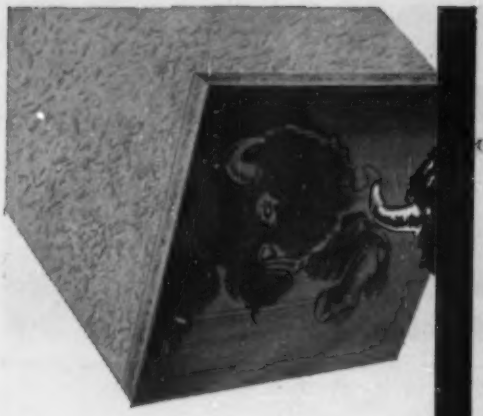
(1251) Vacuum bed surfacer . . . . . Buss Machine Works, Inc.



TUNGSTEN CARBIDE KNIVES on wood planer at Kroehler Mfg. Co.'s new fiber particle board plant up production and reduce down-time, lowering operating costs

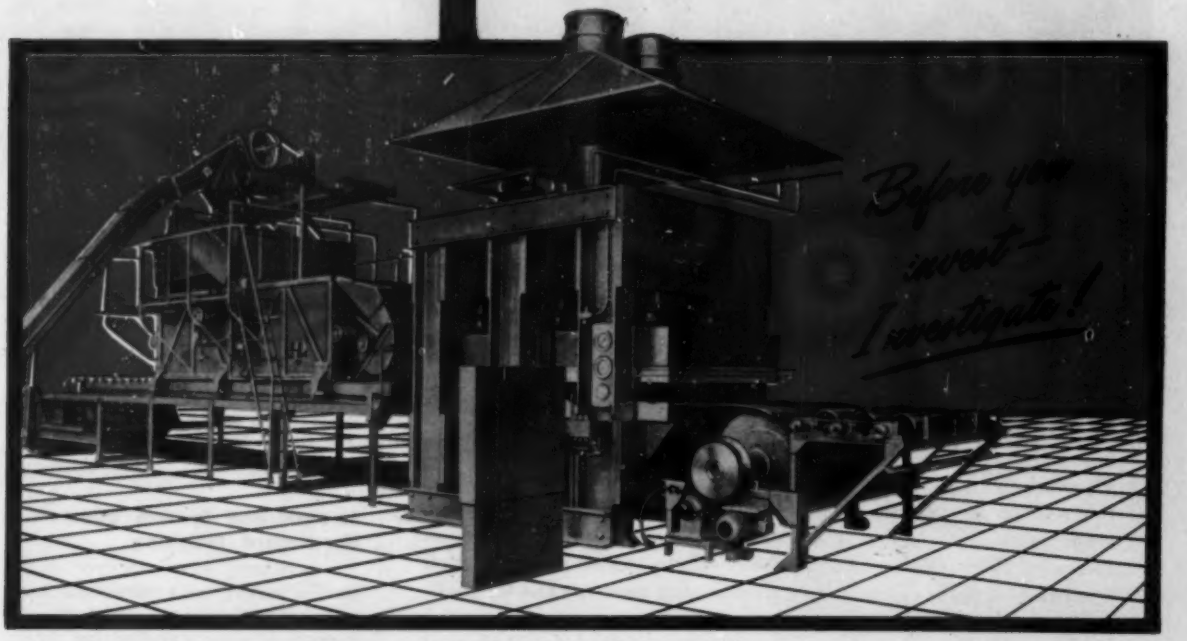
Carbide Knives Double Planer Output

TESTS USING carbide knives more than doubled planer production at Kroehler Mfg. Co., Meridan, Miss., and reduced downtime from 115 to 31% of operating time. The study was undertaken in connection with the



- **Producing the world's finest flakeboard even when using planing mill shavings**
- **Semi-automatic operation**
- **Lowest installation and production costs per daily ton**
- **Exclusive single opening press installation and versatile multiple-press installation**

In 35 Bison Board installations around the world today, successful tests on various types of raw materials have proved the Bison System capable of meeting most exacting requirements. New Bison System installations are now going into several sections of the nation—check with us for name of the one nearest you.



World-famous Bison Board offers many exclusive features worth your investigation—superior finishing and machining qualities inherent in its progressively graduated structure; lower finished product cost through savings in raw materials, as this is the only system that can produce a high quality board with 3500 M.O.R. when using 75% shavings.

Also investigate the exclusive glue mixing machine, lowering high cost for resins in making boards of high strength and screw-holding properties.

Every Bison System installation is test-run and proved before shipment, eliminating costly mistakes and start-ups. We can supply flakeboard *made from your own raw materials* run through a standard production plant in advance of order and without obligation. See us for details.

Films and literature available. Call, wire or write:

Sole American Distributor:

SODERHAMN MACHINE MANUFACTURING COMPANY

Talladega, Alabama

West Coast: 9442 S.W. Barbur Blvd., Portland, Oregon

machining of the firm's fiber particle board.

The board has machining and moisture resistance qualities similar to those of metals, and it responds to surfacing the same as popular hardwoods.

The tests were made on a double surfacer with six-knife heads. The knives were 36 1/4 in. long, 1 1/4 in. wide and 5/32 in. thick. A feed speed of 60 f.p.m. produced 30 knife marks per inch.

(Manufacturers)

(1252) Carbide knives .....Kennametal, Inc.
(1253) Double surfacer ....Greenlee Bros. & Co.

MAZE OF CONVEYORS, ovens and coating machines "Family-Proof" hardwood plywood wall panels in 23 min. at Georgia-Pacific Corp.'s Savannah, Ga., plant

Conveyorization Makes Panel Finishing Line Efficient

CONVEYORIZATION on its finishing line enables Georgia-Pacific Corp. to "Family-Proof" hardwood plywood wall panels, ready for packaging, in 23 min., at its Savannah, Ga. plant.

The new process adds a substantial amount of transparent solids to previous multiple coatings. The face side of the plywood panels has three machined-applied, baked-on topcoats applied over an initial sealer and filler coat. A sealer coat goes on the back surface as a moisture barrier.

Roller coaters apply all the sealer, filler and top coatings to the panels and a series of steam-heated convection ovens and infrared heaters dry the various coatings.

The 23 min. cycle includes the time required for sanding or brushing after coatings and a final polishing operation.

(Manufacturers)

(1254) Finishing materials..Reliance Varnish Co.
(1255) Roller coaters .....Gasway Corp.
(1256) Convection ovens, fans .....ILG Electric Ventilating Co.
(1257) Infrared heaters ..Dry Climo Lamp Corp.
(1258) Sanding, polishing wheels ..... Minnesota Mining & Mfg. Co.

Streamlined System Boosts Hardboard Finishing

AN INFRARED OVEN reduces drying time of precut, base coated and printed hardboard table-top panels from 18 hours to 10 min. at Styline, Inc., Huntingburg, Ind. The streamlined finishing operation also boosts assembly production 10%, according to Ed Gerber, head of the occasional table finishing department.

Basic to the operation is a conveyorized flow coating and a 24 ft. oven setup. Formerly panels were coated, printed and sealed after assembly, and they had to be racked to dry before shipping. Now reverse

2 coats as fast as one

To meet the growing demand for prefinished wood paneling for housing and industry and, to reduce operating costs, the Industrial Plywood Corporation has come up with the ideal solution. Their roller coater can simultaneously apply two coats of lacquer. This is made possible through the use of quick drying lacquer based on Hercules® Nitrocellulose. It takes only six minutes on the production line before a panel is completely finished and then stocked for packaging.

Nitrocellulose lacquers have many "plus properties" for all types of finishing jobs. These include fast air dry, excellent spot repair, easy rubbing or polishing, and outstanding film characteristics with respect to flexibility and print resistance.

If you want more information concerning Nitrocellulose lacquers, please contact the Hercules representative nearest you or write.

Cellulose Products Department

HERCULES POWDER COMPANY
INCORPORATED

Hercules Tower, 910 Market Street, Wilmington 99, Delaware

CLSS-4

Second 30-opening simultaneous closing Washington press for Weyerhaeuser

Two counterbalanced, 30-opening Washington multi-platen hot plate presses are now employed by the Weyerhaeuser Company for the efficient production of softwood plywood.

The second installation resulted from the proven dependability, three-times-faster closing and equal platen pressure on all 30 panels demonstrated by the initial press.

A Washington counterbalanced multi-platen hot press and other forming line equipment keyed to higher production and greater product uniformity may be the answer to your new board plant or expansion plans. For complete information, write or call WASHINGTON IRON WORKS, 1500 SIXTH AVENUE SOUTH, SEATTLE 4, WASHINGTON.

Two of the world's most modern and efficient plywood presses now serve the Weyerhaeuser Co. Elevator-type chargers, 30-opening counterbalanced presses and unloader-stacker units are of Washington design and manufacture. A similar 20-opening, simultaneous closing Washington press, 56" x 202", gives the new plant of the Bowater Board Co. at Catawba, S.C. daily production capacity of 500,000 sq. ft. of hardboard.

HOT PLATE PRESSES • PULP BALING PRESSES
SPECIAL HYDRAULIC PRESSES • AUTOMATIC PRESS LOADERS AND UNLOADERS • COMPLETE DRY PROCESS HARDBOARD AND PARTICLE BOARD FORMING LINE EQUIPMENT

WASHINGTON IRON WORKS

WASHINGTON PRESSES

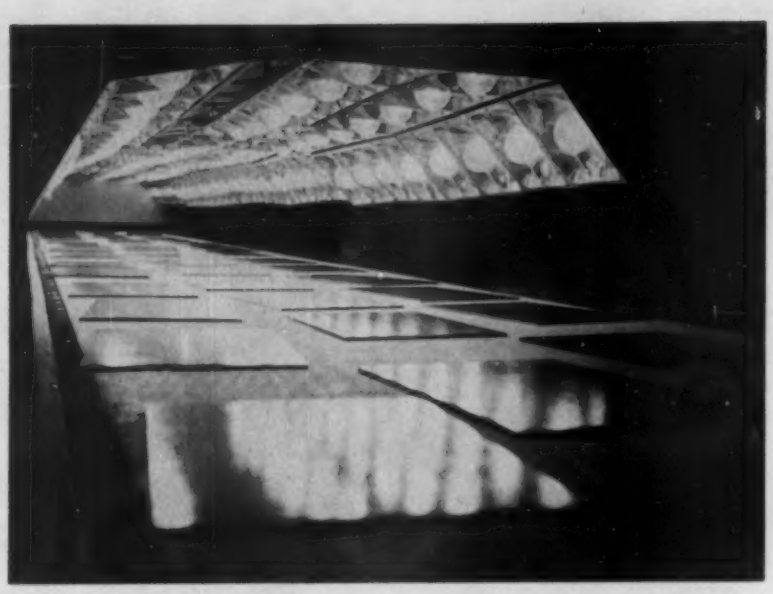
and ACCESSORY EQUIPMENT

roller-coated, 3/16 in., S2S hardboard is printed with a limed oak, walnut or mahogany grain pattern and fed to the flow coater for a 3 mil coat of sealer.

Sealed boards then begin the 100 ft. trip on the conveyor through a flash off area, the oven and a cooling area. The completely dry panels can be stacked and moved to subsequent operations as soon as they come off the conveyor.

(Manufacturers)

(1259) Hardboard .....Abitibi Corp.
(1260) Flow coater ..Joyce Research & Development Corp.
(1261) Printer .....Schmutz Mfg. Co.
(1262) Conveyor..Dubois County Machine Works
(1263) Infrared oven .....Fostoria Corp.
(1264) Finishing materials..Reliance Varnish Co.



24 FT. INFRARED OVEN reduces drying time of base coated and printed hardboard panels from 18 to 10 minutes on conveyorized finishing line at Styline, Inc.

Dual-Action Sander Increases Production

A DUAL-ACTION SANDER, 18 in. wide, reduces abrasive costs 50% and boosts finish sanding production on bedroom and dining room furniture at Jamestown Sterling Furniture Co., Jamestown, N. Y. The unit is operated by unskilled workers.

Actual production figures show about a 4-to-1 increase on 14 3/8 in. wide by 18 in. long panels, and quality finishing is consistent on all lengths and widths.

Panels in varying widths and in random lengths are fed through the sander either singly or in multiples, depending on width. The offbearer is responsible for machine adjustments. He pencil marks the first two or three panels in a run and adjusts the sanding pressure to remove the markings.

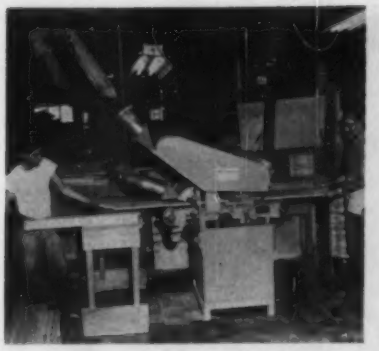
THE heart OF FINE FURNITURE

Customboard machines cleanly, without splintering. Face and edges have exceptionally high screw-holding strength, and may be machined or banded, as each job requires.

Because Customboard has no grain, no surface defects it makes the ideal base for plastic laminates and hardwood veneers. Standard 54 inch widths can be custom-cut to specified lengths up to 144 inches.

Pope & Talbot Customboard is a scientifically designed board which meets every requirement of core material users. It is warp resistant, has no grain or surface defects, and affords uniform density and an exceptionally smooth surface. These features make Customboard the most versatile, *practical* core board on the market.

POPE AND TALBOT INC. 3070 N.W FRONT AVE., PORTLAND, OREGON



RANDOM LENGTH panels are fed through dual-action sander singly or in multiples at Jamestown Sterling Furniture Co.

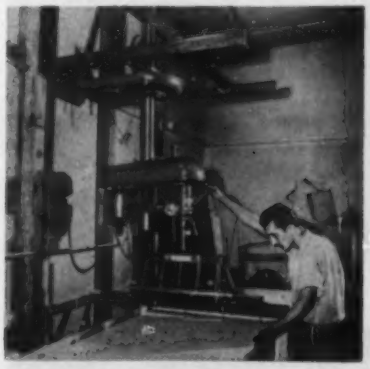
Veneer panels, 1/28 in. may be finish-sanded without sand-through.

(Manufacturer)

(1265) Dual action sander ....Timesavers, Inc.

Drills Up to 15 Holes Simultaneously

SUSPENDING a 17 in. drill press from an angle iron wall bracket over a table enables S & S Visual Co., Brooklyn, N. Y., to drill panels of any width. A multiple-spindle attachment, with



DRILL PRESS suspended from wall bracket over table enables S & S Visual Co. to drill multiple holes in any width panels

extension spindles on either side permits drilling up to 15 holes in a 35 in. line simultaneously.

Unlimited throat capacity is obtained by suspending the drill press from its base which is attached upside down to the wall bracket. The adjustable spindles permit positioning holes without turning the drill press on its column.

Panels 15 x 60 in. and 30 x 60 in. are customarily drilled on the table. Up to 200 panels are drilled per day using the setup.

(Manufacturer)

(1266) Drill press .....Delta Power Tool Div., Rockwell Mfg. Co.

Prime-Coats Hardboard for Exterior Applications

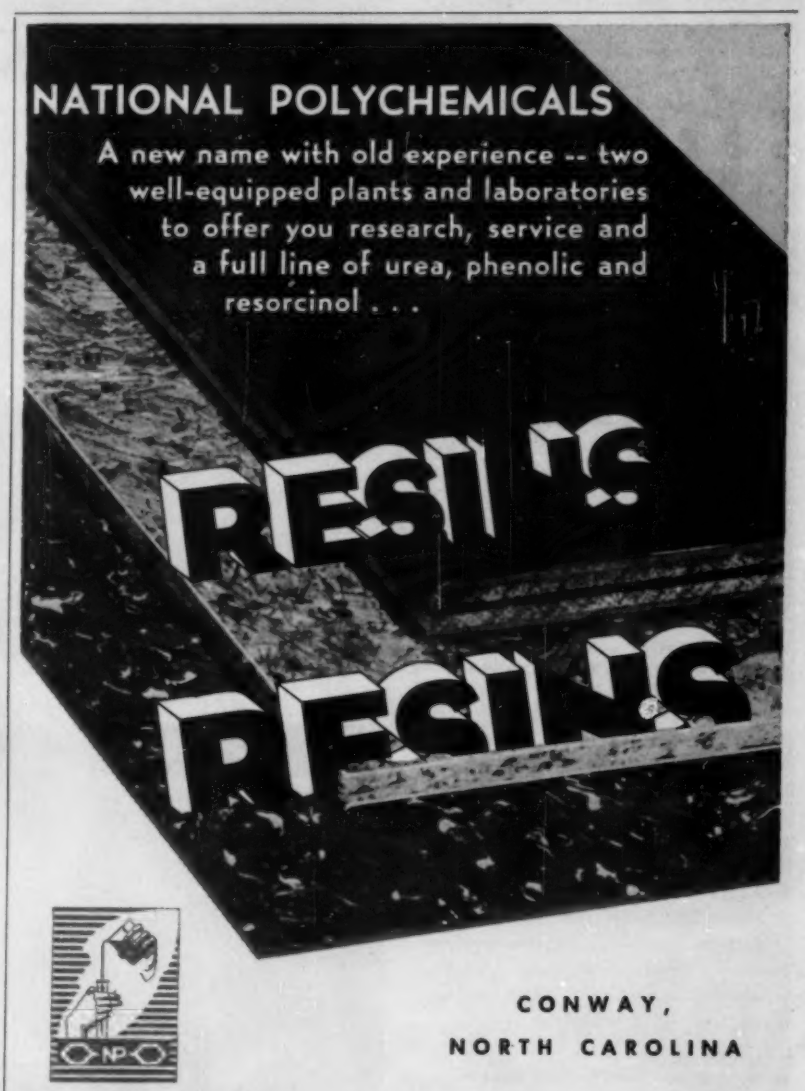
A RESIN BASE prime coating provides Weyerhaeuser Co., Silvatek Div., with a tempered hardboard that it is now producing at Klamath Falls, Ore., and marketing as suitable for exterior applications.

The prime coating has a light gray tone appearance, dark enough for complete coverage and light enough to be covered readily with a lighter colored second coat. The hard durable surface is resistant to moisture, sun and the extremes of weather exposure, according to the company's research laboratories located in Longview, Wash.

Weyerhaeuser applies the prime coat in a 1.5 mil thickness by continuous-feed, moving spray arms that give uniform coverage on both smooth surfaced hardboard and on striated and grooved varieties.

Transfer Car Facilitates Hardboard Handling

A SPECIAL TRANSFER CAR moves hardboard panels from cooling equipment and deposits them in circulating water inside humidifying tanks at Bowater Board Co., Catawba, S. C. The humidifying equipment brings the boards


NATIONAL POLYCHEMICALS
A new name with old experience -- two well-equipped plants and laboratories to offer you research, service and a full line of urea, phenolic and resorcinol . . .
RESINS
RESINS
NP
CONWAY,
NORTH CAROLINA
NATIONAL
POLYCHEMICALS, INC.
WILMINGTON, MASSACHUSETTS

to the proper moisture content level for the particular end use.

The transfer car, operated by one man, effectively mechanizes a complicated operation, reducing handling costs two ways—by time and labor.

(Manufacturer)

(1267) Board cooler, humidification equipment and transfer car ....Moore Dry Kiln Co.

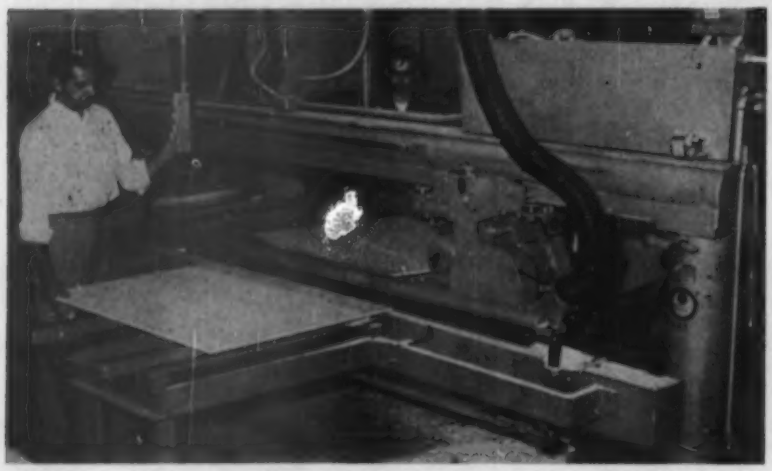
TRANSFER CAR moves cooled hardboard panels to humidification equipment at Bowater plant

Two-Head Panel Saw Does Cutting and Dadoing

ADLER-KAY CO., INC., Detroit, Mich., keeps its custom kitchen cabinet production line humming by automating where it fits but maintains individual control of each piece of equipment for maximum flexibility and economy.

Every piece of plywood going into Adler-Kay's line of unfinished cabinets is either rough cut, finish cut or dadoed (or some combination of these) by one piece of equipment—a panel saw with two heads. One head is used for sawing and one for dadoing. The saw section travels about 100 f.p.m. and the dado head moves at about 33 f.p.m.

A dado head was incorporated on the opposite end of the same machine where it functions as a slower moving saw.



SPECIAL TWO HEAD panel saw—one for sawing, one for dadoing—rough cuts, finish cuts or dadoes every piece of plywood going into Adler-Kay Co.'s custom kitchen cabinet line

(Manufacturer)

(1268) Panel saw..Burke E. Porter Machinery Co.

Endless Chain Caul Return System

AT THE NEW Bowater Board Co. hardboard plant at Catawba, S. C., the caul return system is closely synchronized with the press loader and unloader. An endless chain pulls the cauls from a point outside the unloader over two merry-go-rounds to a point near where a mat is placed on the caul.

Empty cauls go by belt conveyor to the mat cutoff station where they receive the mat. While the mat is being transfered to the caul, the caul is released by the pulling chain and a second chain with lugs takes over.

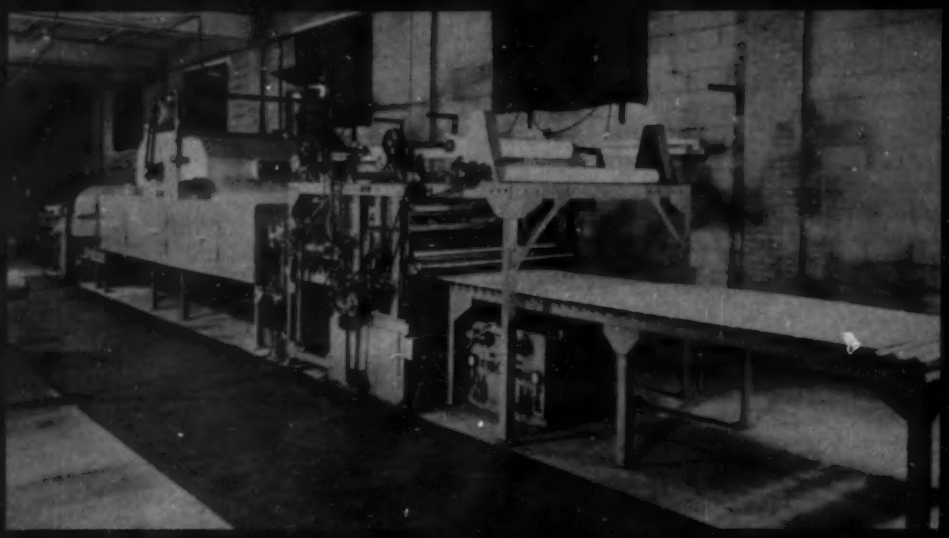
After pressing the boards are separated from the cauls by vacuum cups and proceed through trim saws to the cooler. The cauls are returned via the merry-go-rounds to the mat cutoff station, completing the circuit.

(Manufacturer)

(1269) Circulating caul system ....Washington Iron Works

TWIN MERRY-GO-ROUNDS plus endless chain conveyor with speed synchronized with press loader and unloader automate Bowater Board Co.'s caul return system

PLASTIC PREFINISHED PLYWOOD IN 1 PROCESS STEP!



The amazing new Litzler CONTROPRESS is a compact process unit which takes in raw plywood sheets, and delivers upgraded prefinished panels with a lifetime of wear and beauty sealed in . . . all in one, continuous operation.

The continuous roll laminating press line cleans base stock, applies toners and adhesives, bonds plastic or metal foil/films under closely controlled heat and pressure conditions, then finishes or embosses the film as a permanent laminate.

A wide variety of film types is accommodated — polyesters, vinyls, foils . . . clear, satin, opaque or pre-printed . . . in a broad range of thicknesses. End product use of the upgraded products covers the whole spectrum of the construction, architectural and furniture fields.

C. A. LITZLER CO., INC.

SOUND ENGINEERING FOR TOMORROW'S PRODUCTION

235 BROOKPARK RD. **CLEVELAND 9, OHIO** CABLE "CALITZ"

EXPORT REPRESENTATIVE: GILLESPIE & CO. OF N. Y., 96 WALL ST., NEW YORK 5, N. Y.

PRODUCTS for Board and Panel Processing and Fabricating

Hydraulic Press

MFR.: G. M. Diehl Machine Works, Inc., Dept. WP, Wabash, Ind.

DESCRIPTION: Diehl single-opening hydraulic press for edge gluing core stock and for laminating and veneer operations.

FEATURES: This is an end loading with platen length of 100 in. Has one opening with 6 in. of daylight. Capable of exerting 150 p.s.i. over entire platen area. Equipped with motor-driven, batch-type loading table. Has integral oil heating system with electrically heated calrod immersion heaters to deliver up to 450 deg. F. platen temperatures. Also equipped with 300 lbs. per lineal inch side pressure.

Circle Item BP1 in Coupon on Page 163.

Flaking Machine

MFR.: Pallmann Pulverizer Co., Dept. WP, 657 Franklin Ave., Garden City, N. Y.

DESCRIPTION: Pallmann turbo chipper for production of high-grade flat particle board flakes from almost any type of wood waste.

FEATURES: Two main parts are infeed arrangement and knife ring. Hogged material is thrown by fan blades of feeding mechanism clockwise around inner ring of machine. Knife ring or outer ring rotates counter-clockwise. Through centriffugal force, material is pressed against knives. Wood tends to align so that it is cut parallel to grain. Arrangement also results in a flake which is cut rather than impacted. Chip thickness can be controlled from .015 to .04 in. Cutting speed is approximately 15,000 f.p.m. Sold with spare knife ring for sharpening replacement with minimum downtime. Model FZ-8 (shown) has capacity of approximately 5,000 lbs. per hour.

Circle Item BP2 in Coupon on Page 163.

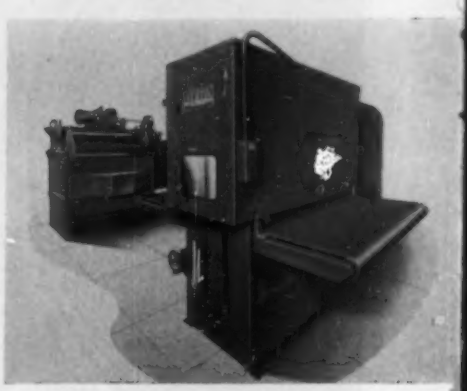
Plywood Filling Machine

MFR.: Black Brothers Co., Inc., Dept. WP, Mendota, Ill.

DESCRIPTION: No. 22-D plywood and/or hardboard filling machine for applying filler material to plywood, hardboard and similar materials.

FEATURES: Machine has five rolls. Coating roll and doctor roll on upper infeed side of machine meter and apply filler material to top surface of board as it passes through machine. Infeed back-up roll, mounted directly underneath coating roll, holds board up against coating roll and also serves to drive board through machine. Reverse wiping roll wipes any excess coating material from face of board. Scraper blade on roll reclaims material, returning it to roll reservoir formed by coating roll and doctor roll. Outfeed pressure roll is mounted directly beneath reverse wiping roll and serves to hold board up against reverse wiping roll as well as to drive it out of machine. Has one variable speed drive motor. Where reverse wiping roll is driven independently and speed of reverse wiping roll is varied, two variable speed drive units are furnished, one for reverse wiping roll, the other for balance of rolls. Has adjustment to permit raising reverse wiping roll so machine may be used as single top coater to apply prime coat of finishing material to top surface of board after it has been filled.

Circle Item BP3 in Coupon on Page 163.



Conveyorized Sanders

MFR.: Curtis Machine Div., Carborundum Co., Dept. WP, Niagara Falls, N. Y.

DESCRIPTION: Models 150 CT "conveyor top" (right) and 150 CB "conveyor bottom" (left) wide belt sanders for finishing plywood, particle board and other flat surfaces.

FEATURES: Models may be used individually, together or with other finishing machines for high-speed, in-line abrasive belt finishing. Sand both sides at speeds of 100 f.p.m. and more. Conveyorized for positive control of through-feed rate. Individual edge tensioning and center post tracking assure maximum belt life. Belt size is 50 x 103 in.

Circle Item BP4 in Coupon on Page 163.

Panel Finishing System

MFR.: Union Tool Corp., Dept. WP, Warsaw, Ind.

DESCRIPTION: Single coat prefinishing system for wood custom finishing of panels.

FEATURES: Consists of brush roll, roller coater, conveyor oven and flap wheel

rough cut

Three operations — rough cut — medium cut — finish cut — are necessary for each and every machined surface.

Ray Tallman, a Coe veteran employee of 30 years service, is making a rough or hogging cut on a knife bar casting using our big CINCINNATI "Hypro" open side planer. These will be followed by a series of medium cuts and finishing operations to obtain a perfectly true surface to receive the knife. It will then gleam like the circular way in the foreground.

These fine finishes at key points are essential to meet the high quality standards that are adhered to in all Coe machines in which

Quality IS OUR PRINCIPAL INGREDIENT

Removal of the tough outer skin of a casting relieves spot tensions built up when a casting cools and permits distortions. Therefore, finishing of some large castings such as the knife bar above, requires weeks or even months of aging between operations and months of effort by skilled craftsmen to obtain a stable casting.

These and other problems are part of the "know-how" necessary for building good machine tools.

COE

VENEER MACHINERY SINCE 1852

LATHES

•

CLIPPERS

•

DRYERS

•

KNIFE GRINDERS

The COE MFG. CO.

PAINESVILLE, OHIO PORTLAND, OREGON

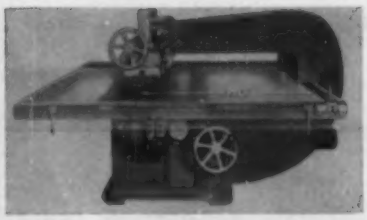
sander. Will handle 48 in. wide panels through complete pre-finishing operation. Is low cost and easily adaptable to needs of furniture and cabinet manufacturers.

Circle Item BP5 in Coupon on Page 163.

Wide Arm Ripsaw

MFR.: Ekstrom, Carlson & Co., Dept. WP, 1400 Railroad Ave., Rockford, Ill.
DESCRIPTION: Model E wide arm ripsaw for accurate sizing of 4 x 8 ft. panels of all types.

FEATURES: Has full 48 in. capacity to both right and left of saw blade with rip fence in place. Employs undercutting principle for greater rigidity and safety. Variable speed feeds infinite from 56 to 225 f.p.m. Adjustable, removable throat

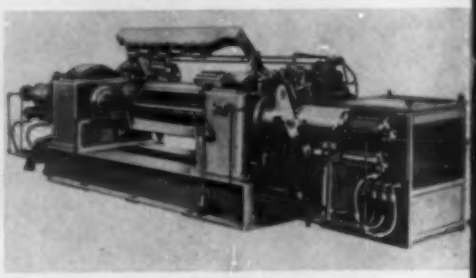


insert of soft metal eliminates sliver jams and prevents damage to blade. Stiffening collars support saw blade up to level of feed chain. An 8-roll pressure bar assembly adjusts smoothly and easily to allow stock as short as 4 1/2 in. to pass through machine. Stock gauge is free-floating and of feather-touch design.

Circle Item BP6 in Coupon on Page 163.

Veneer Lathe and Charger

MFR.: Jordan International Co., Dept. WP, 444 Market St., San Francisco 11.
DESCRIPTION: Raute 2HV Series retractable chucking veneer lathe (shown) and PK lathe charger for peeling small diameter logs at minimum loss.
FEATURES: Lathe series available in knife lengths from 56 to 108 in. At start of peeling, log is gripped by both sets of spindle chucks. When log is reduced close to inner chuck diameter, large chucks retract while lathe continues to operate and remainder of block is peeled down to smallest core diameter—3 1/8 in. on minimum and 4 5/16 in. on maximum knife length. At this point, small chucks retract and core drops down through opening in bed plate to cross conveyor. Log charger, designed for use in conjunction with lathe, automatically pre-centers log and moves it forward to exact chucking position.



Circle Item BP7 in Coupon on Page 163.

Panels, doors, roofing, siding, and all flat or near flatwear may be finished on one complete Koch system utilizing your choice of paint application — curtain coating, flow coating, spraying, dipping, etc.

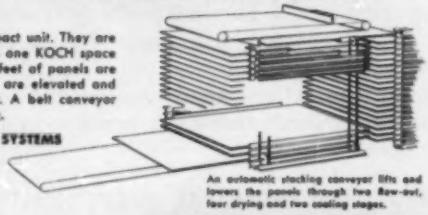
COMPLETE FINISHING OF FLAT PANELS ON ONE CONVEYORIZED SYSTEM

Flat panels are finished automatically on one compact unit. They are printed, coated, flowed out, dried and cooled with one KOCH space saving system! By using stacking conveyors, 1152 feet of panels are completely cured in an 80 ft. tunnel oven. Panels are elevated and lowered alternately through a 3-stage curing unit. A belt conveyor delivers them to the shipping room ready for packing.

LOOK TO KOCH FOR COMPLETE FINISHING SYSTEMS FOR WOOD OR METAL PRDUCTS

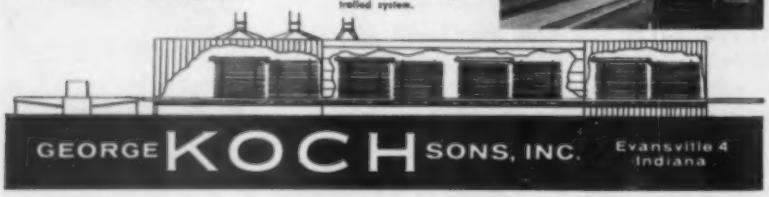
George Koch Sons, Inc., has over eighty years experience in engineering, manufacturing and installing finishing systems for wood and metal products. You are assured a trouble-free production line with a substantial saving in costs of manufacture and maintenance.

Write for data file of KOCH INDUSTRIAL EQUIPMENT

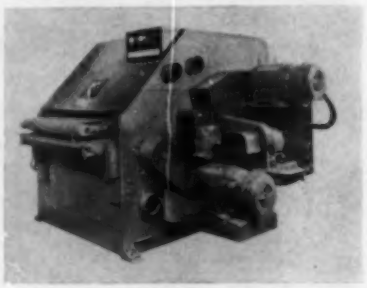


An automatic stacking conveyor lifts and lowers the panels through two flow-out, four drying and two cooling stages.

Panels are printed on a roller graining machine and sped immediately through a Steinemann curtain coater. A double belt carries them into a stacking conveyor to be cured in a humidity controlled system.



GEORGE KOCH SONS, INC. Evansville 4 Indiana



Double Belt Sander

MFR.: Timesaver Sanders, Dept. WP, P. O. Box 7446, Robbinsdale Station, Minneapolis 22, Minn.
DESCRIPTION: Speed Belt Model TBS dual action sander for top and bottom sanding of material in one pass.
FEATURES: Is constructed with identical overhead and bottom sanding rolls plus polishing platens. Sanding heads polish and sand both sides of work as it passes through machine. Available in 30, 40 and 50 in. widths.

Circle Item BP8 in Coupon on Page 163.

Adhesives

MFR.: Borden Chemical Co., Div. Borden Co., Dept. WP, 350 Madison Ave., New York 17, N. Y.
DESCRIPTION: New polyvinyl acetate wood adhesives line to be marketed under company's "Cascorez" trade name.
FEATURES: Products are designed specifically for assembly of pre-fabricated units. Manufacturing applications include flush

WESTVACO

DUREEN™

PRINT GRAINS
REQUIRE NO FINISHING

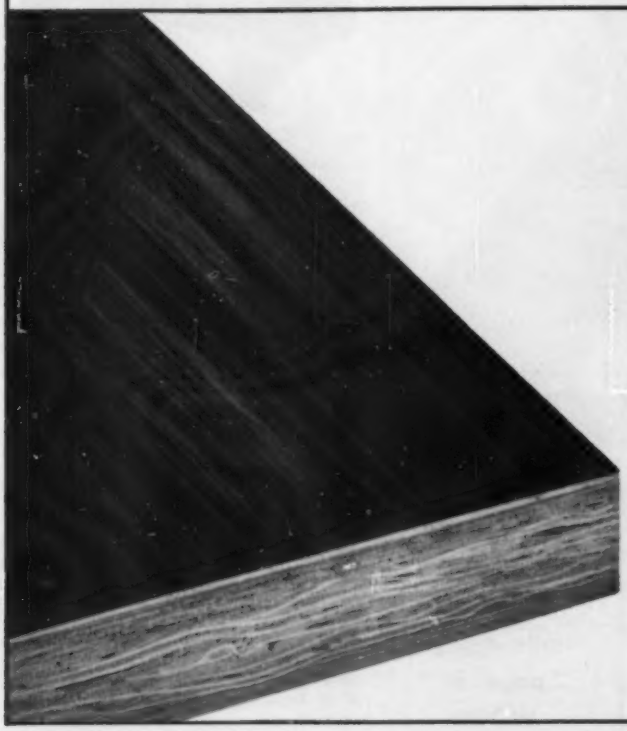
Westvaco Dureen Print Grain Panels start with our uniform density, warp-free flakeboard corestock. Next comes a phenol impregnated paper overlay for perfect smoothness—and finally a new and revolutionary satin-finish polyester laminate which has been reverse-printed with an authentic wood grain pattern.

The result is a panel which works easily, has excellent screw holding power and requires absolutely no finishing . . . not even on the edges, because we supply grained T-molding to match!

Dureen Print Grains will not fade, faze or crack. They are highly moisture and abrasion resistant and are unharmed by oils, greases or fats.

Now in stock in 4' x 8' panels, ½" and ¾" thick, in walnut, cherry, birch and ash.

New DUREEN Panels...for furniture and case goods



WESTVACO

DUREEN

HARDWOOD OVERLAYS
FOR THE LOOK OF LUXURY

Take Westvaco flakeboard corestock, bond on a genuine top-grade hardwood veneer . . . tone the veneer for uniformity . . . then top it off with a ruggedly durable clear plastic laminate. What you have is a Westvaco Dureen Hardwood Overlay with the rich, luxurious appearance of the most expensive fine woods.

The clear top coat gives Westvaco Hardwood Overlays a real "lifetime" finish that is as tough as it is beautiful. Edges are easily finished without banding.

Now in stock in 4' x 8' panels, ½" and ¾" thick, in birch, cherry, walnut and plain sliced mahogany.

For samples of Westvaco Dureen Print Grain Panels, and Dureen Hardwood Overlay Panels, write Building Boards Division, West Virginia Pulp and Paper Company, Tyrone, Pa. (MUtual 4-1610).

West Virginia Pulp and Paper

Pd
This symbol means Service
As United States representative of twelve of Finland's largest plywood mills — whose combined output includes approximately 75% of Finland's total production of birch plywood — we are able to offer you an unequaled selection of all-birch plywood, as well as insulating board, hardboard and ceiling tile.
Nationwide distribution through our distributors in seven key cities from coast to coast assures you of dependable service and immediate delivery.
Pd
PLYWOOD & DOOR
MANUFACTURERS CORPORATION
Plywood & Door Northern Corp., 2856 Webster Avenue, New York 58, N.Y.
Plywood & Door Southern Corp., 321 St. Charles Street, New Orleans 12, La.
Plywood & Door Southern Corp., 151 Leslie Street, Dallas 7, Texas
Plywood & Door Midwest Corp., 12800 South Lake Calumet Harbor Drive, Chicago 33, Illinois
Plywood & Door Western Corp., 1555 Santa Fe Avenue, Long Beach 10, Cal.

PIERSON-HOLLOWELL CO., INC.
MANUFACTURERS OF
FACE VENEERS AND HARDWOOD LUMBER
AMERICAN WALNUT • CHERRY
MAHOGANY • WHITE OAK
AND OTHER FANCY WOODS
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Indianapolis 4, Indiana
MILLS:
Lawrenceburg, Indiana
Kookuk, Iowa

• For results use the classified advertising pages of WOOD & WOOD PRODUCTS •

doors, furniture assembly, laminations and overlaying of veneers, high density plastics, furniture panels, core panels, hardboards, and construction of office, industrial and home partitions. Adhesives include: (1) Cascorez CV-735—a high-tack, high joint strength emulsion for modern gluing operations where unusual wet tack is essential. Is straw to creamy white in color and has six months storage life at 70 deg. F. (2) Cascorez CV-731—a medium solids, low cost adhesive designed for applications where medium joint strength is sufficient and cost is of primary concern. Is creamy white in color, has good storage stability and is reasonably fast setting. (3) Cascorez CV-728—a medium solids emulsion of moderate cost and fast setting speed. Has creamy white color and four-month storage life. (4) Cascorez CV-737—a fast setting, very high joint strength adhesive, white in color and in ready-to-use form with excellent storage ability.

Circle Item BP9 in Coupon on Page 163.

Panel Grooving Machine

MFR.: Multiscore, Inc., Dept. WP, 1123 W. 51st St., Seattle, Wash.

DESCRIPTION: Vari-Groover, panel grooving machine.

FEATURES: Unit construction includes heavy framing, variable feed speed, provision for pattern variety, others. Converts easily to sawing and dadoing operations. Is particularly adaptable to 4 in. center, flat bottom grooving patterns.

Circle Item BP10 in Coupon on Page 163.

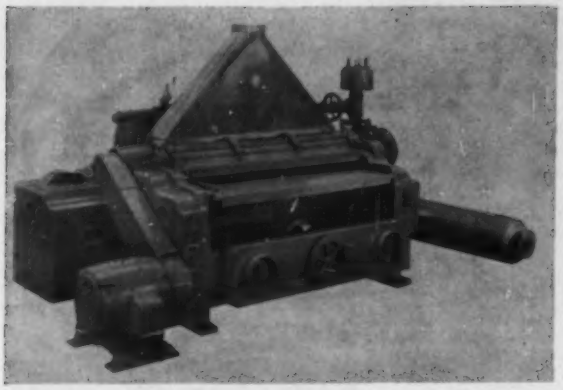
Prefinishing System

MFR.: C. A. Litzler Co., Inc., Dept. WP, 1818 Brookpark Rd., Cleveland, Ohio.

DESCRIPTION: One-step prefinishing system, called Contropress, for continuous roll lamination of a newly developed polyester surfacing film.

FEATURES: Base panels are brushed clean, sealed and film applied before finishing or embossing the film as permanent laminate. Features new advanced laminating techniques such as infrared heating unit and special resilient rolls capable of operating at high levels of heat and pressure. Prefinishes panels up to 54 in. in width and has capacity of 10 to 30 lineal f.p.m. Film surface can be varied within range of 1.5 to 7 mils. Uses include table tops, walls, others.

Circle Item BP11 in Coupon on Page 163.



Contact Cement

MFR.: Hardboard Fabricators Corp., Dept. WP, 49 Empire St., Newark 5, N. J.
DESCRIPTION: Bestwood contact cement for bonding decorative laminates to wood, composition board and metals.
FEATURES: Said to be easy to apply, have greater mileage, high initial bond strength and high resistance to heat. Is a general purpose adhesive designed for bonding the following materials to themselves or to one another: wood, cork, leather, veneer, plastic, hardboard, asbestos board, vitreous enamel, ceramics, polyvinyl chloride, glass, paper, etc. Available in pints, quarts, gallons, 5 gal. cans and 55 gal. drums.

Circle Item BP12 in Coupon on Page 163.

Panel Sizer

MFR.: Jenkins Div., Kohler-Joa Corp., Dept. WP, Sheboygan Falls, Wis.
DESCRIPTION: Low-cost automatic panel sizer for sizing and splitting 4 x 8 ft. panels of hardboard, plywood and particle board.
FEATURES: Designed for handling panels as they come from press or dryer, unit has chain feed in both passes, spring-loaded rubber wheel holddowns and automatic right angle transfer table. Each unit has separate feed drive so optimum feed speeds can be set for each pass. With infeed regulating gate on ripsaw, unit lends itself to manual, semi-automatic or fully automatic panel feeding. Because unit is close coupled, transfer can be accomplished with or without panel overlapping. Variations to basic unit can include separate, fully adjustable, hogging saw arbors, traversable splitting saws and multiple chain feed.

Circle Item BP13 in Coupon on Page 163.

72 in. Planer

MFR.: Buss Machine Works, Inc., Dept. WP, Holland, Mich.
DESCRIPTION: New planer with 72 in. working width for hardboard, particle board and other wide material.
FEATURES: Equipped with patented vacuum bed which holds stock flat and prevents it from lifting as it passes under cutting head. Thin material, .003 in. or less in total thickness, can be surfaced provided there is enough rigidity to permit proper feeding. Fully balanced head, equipped with six carbide knives, is driven at high speed through V-belt drive. Unit also has four driven rolls, variable feed control, and special carbide grinding apparatus for carbide knives.

Circle Item BP14 in Coupon on Page 163.

Dry Veneer Clippers

MFR.: E. V. Prentice Co., Dept. WP, 2303 N. Randolph Ave., Portland 17, Ore.
DESCRIPTION: Victor automatic dry clipper for selective clipping of dry veneers.
FEATURES: Actuated by graphite or other

The Top TWO For
PERFORMANCE-ECONOMY

1.

Fischer - Muller
Veneer Splicer

★ The only continuous cross-feed splicer for face veneers . . . handles thicker veneers with ease
★ Accommodates narrow stock—down to 3"
★ Holds veneer strips under pressure to assure accurate register of edges
★ Automatic clipping requires fewer operators, allows clipping of selected widths
★ Maintenance free—no belts or chains
★ "Walking shoes" feed system assures positive control of veneers as thin as 1/28"

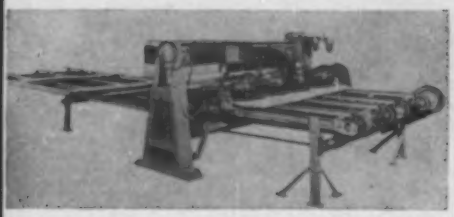
2.

JOHN GUILLOTINE
Package Veneer Jointer

★ Squarest cut at maximum speed for all veneer packages
★ Complete pressure and cutting cycle of only 6 seconds
★ Hold down beam operates under 24 tons of pressure
★ Heavy one-piece blade carrier
★ Construction formed by three one-piece wrap-around steel plates
★ Patented second cut system for best quality on thick and brittle veneers
★ Parallel back fence with precision tape adjustment to produce parallel glue lines

Phone, wire, or write

wilco machine works, inc.
Box 3897VP-10 Memphis, Tenn. WH 8-4555



markings placed on veneer, which energize pickup fingers and control knife. Action can be either automatic or random. Material is squared with knife before entering holddowns. Standard 8 ft. infeed and 20 ft. outfeed tables are supplied, and speeds can range from 40 to 80 f.p.m. Knife lengths run from 70-165 in.

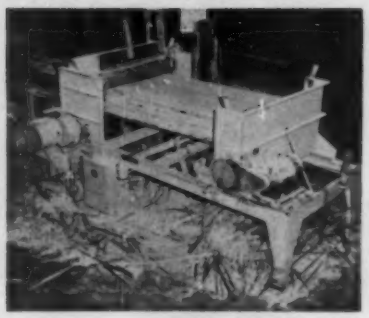
Circle Item BP15 in Coupon on Page 163.

Automatic Panel Feeders

MFR.: Cardwell Machine Co., Dept. WP, P. O. Box 1359, Richmond 11, Va.

DESCRIPTION: Model SSF-860 skinner saw feeder (top photo) and Model APT-960 auto panel transfer for automatic feeding of panel sizing saws.

FEATURES: Skinner saw feeder is top loading, bottom ejecting, non-stop feeder located in front of skinner saw. Feeder is loaded by lift truck and has ample storage capacity to take care of fluctuations. Production is about 1,300 eight-foot-long panels per hour at feed speed of 200 f.p.m. Auto panel transfer is hopper-type feeder for cutoff saw. Panels from skinner saw feeder are conveyed on belts and injected into hopper of panel transfer where they are positioned for end



cuts. Feed chains, assisted by air-actuated kickers, remove panels from bottom of this hopper. Panels are fed in groups of two, three or four according to thickness so that feed speed of cutoff saw is never more than 60 f.p.m. when skinner saw is feeding at 200 f.p.m. Automatic controls sense height of stack in panel transfer and stop and start cutoff saw feed chains and skinner saw feeder. Controls may be interlocked with stacker so that whole installation is automatic and completely self-regulating. Operations can be supervised by one operator.

Circle Item BP16 in Coupon on Page 163.

Begin with Plywood...

FINISH with O'BRIEN

The complete O'Brien system authentically reproduces any expensive or exotic wood grain or pattern, in any color, by upgrading low-cost, readily available plywood. The complete process includes:

O'BRIEN FILLERS

for open grained Plywood. These materials produce a hard foundation for successive coats, and lend stability to the wood surface.

O'BRIEN GROUNDCOATS

that offer complete opacity in varying colors and shades to be applied over filled panels. The groundcoat presents a surface designed to accept the graining operation.

O'BRIEN GRAINING INKS

that are formulated in mellow wood tones to reproduce wood grain patterns faithfully. Noted for excellent transfer, permanence, and non-smearing when topcoated.

O'BRIEN TOPCOATS

provide a durable finish with high resistance to solvents, staining, and marking.

COUNT ON THE O'BRIEN PLYWOOD FINISHING SYSTEM FOR TOP-QUALITY PERFORMANCE AND ECONOMY. WRITE US TODAY FOR FULL INFORMATION.

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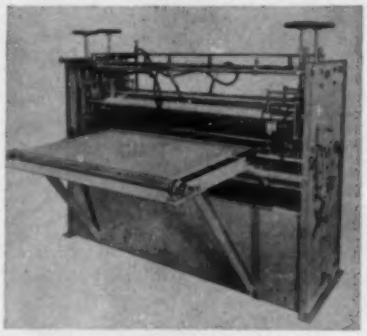
INDUSTRIAL FINISHES

THE O'BRIEN CORPORATION, South Bend 21, Indiana · Baltimore · San Francisco · Oklahoma City · Los Angeles



Double Roll Coater

MFR.: Gasway Corp., Dept. WP, 6463 N. Ravenswood Ave., Chicago 26, Ill.

DESCRIPTION: No. 54-B heavy-duty double roll coater which handles material up to 48 in. wide and up to 3 in. thick.

FEATURES: Double rolls eliminate flow marks often occurring when heavy film applied. Double roller principle also applies adequate film in grooves and similar hard-to-coat areas. Scraper bar is provided on coating roll to achieve uniform

coating on long panels and to eliminate overlay. Synthetic rubber coating rolls are 6 in. in diameter by 54 in. long; paint metering rolls 3½ in. in diameter and 51 in. long. Single hand adjustment raises and lowers both sets of coating rolls equally. Each metering roll has single side adjustment for paint film thickness and is provided with equalizing adjustment so that uniform pressure is exerted across length of coating roll. Has 1 h.p. motor and variable speed V-belt drive. Operates at from 30 to 90 r.p.m. Coats various materials.

Circle Item BP17 in Coupon on Page 163.

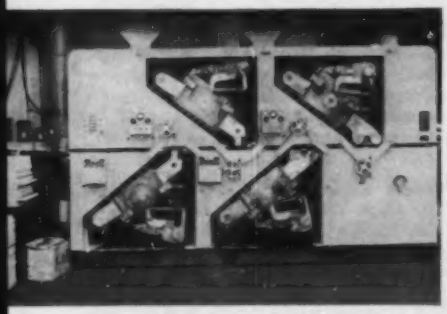
Melamine Glue

MFR.: National Casein Co., Dept. WP, 601 W. 80th St., Chicago 20, Ill.

DESCRIPTION: Melamine glue, called M-3, which produces waterproof bond for plywood and edge-glued lumber.

FEATURES: Is white almost odorless powder which contains no filters or catalyst. Produces light-colored glue lines. Bond said to be boilproof, non-staining and craze-resistant, in addition to waterproof. Because heat required to set glue line, hot press and high frequency gluing recommended. Can also be used as urea resin glue fortifier.

Circle Item BP18 in Coupon on Page 163.



Four-Belt Sanders

MFR.: Smithway Machine Co., Dept. WP, 4617 Airport Way, Seattle 8, Wash.

DESCRIPTION: Heavy-duty top and bottom four belt sanders for high-speed, complete particle board sanding in one operation.

FEATURES: Available in widths from 48 to 64 in. Board is finished by grinding off excessive thickness with first top and bottom rolls, then finishing board to tolerance with second top and bottom rolls. Plus or minus .005 in. with 3/0 finish while removing up to .080 in. can be achieved at 80 f.p.m. When sanding plywood, unsanded stock is fed at speeds of 100 to 125 f.p.m., after which it is graded and patched, and patched stock resanded at speeds of 80 to 100 f.p.m.

Circle Item BP19 in Coupon on Page 163.

Automatic Panel Turner

MFR.: Sweed Mills, Inc., Dept. WP, Gold Hill, Ore.

DESCRIPTION: Stack Turner which auto-

From
WOOD WASTE
To
FLAT CHIPS

for PARTICLE BOARD

Pallmann Turbo Mill Model PZ shown will produce up to 5,000 pounds of wood chips per hour.

Now you can make exceptionally high grade particle board from all types of wood waste by a new flaking or chipping operation employing the Pallmann Flaker. The flakes lie flat and are more uniform, therefore produce a stronger, better-looking board. The operation is highly efficient, low in cost, and leaves few undesirable fines.

The Pallmann Flaker literally slices the wood particles by centrifugal force, producing chips of thicknesses from .015" to .04", controllable in size during operation.

For a better grade particle board, use Pallmann.

Write or call us for information on how Pallmann can meet your pulverizing or size reduction problems.

ORIGINAL PALLMANN

PALLMANN PULVERIZERS
COMPANY, INC.
315 Newark Street, Hoboken, New Jersey
Telephone: SW 2-2244

For Top Performance in Veneer and Plywood Mill Equipment . . .

Users in five continents rely on RAUTE, whose 50 years of experience in building veneer and plywood machinery guarantees satisfaction. The machine illustrated is one of many RAUTE has developed for more economical use of raw materials, higher production, and the finest in finished products.

Raute

SERIES 2HV VENEER LATHE

With Retractable Chucking

Designed to peel down to 2¾" on a minimum knife length of 56" or 4 5/16" on a maximum knife length of 108". Hydraulically operated, with 30" swing and back up rolls. Cores automatically dropped. When used with RAUTE lathe charger, can be operated by one man. Speed: 3 logs or cores of 7" to 9" diameter per minute. Retractable chucks hydraulically operated. Pneumatically operated charger handles logs to 20" diameter.

Manufactured by
Lahden Rautateollisuus Oy
Lahti, Finland

RAUTE also makes veneer scarf jointing machines, veneer clippers, glue spreaders, veneer jointers, etc.

JORDAN INTERNATIONAL COMPANY
444 MARKET STREET SAN FRANCISCO 11 YUKON 2-7127
Cable Address: Jordinco

NEW...Wholly Motorized Laminating Presses

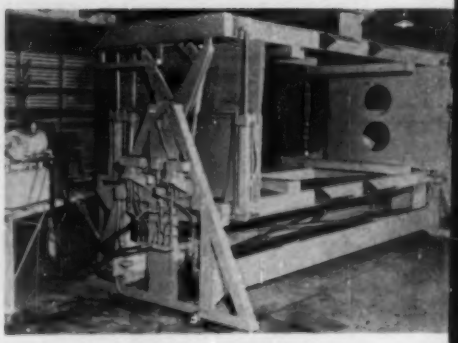
- **Presses any size bundle from 3½" to 54" in height.**
- **Economical to buy—efficient in operation.**
- **Conveyorized loading and unloading.**
- **No need for filler strips or cull boards—press quickly adjusts for variations in stack heights.**

An Air Hose Press designed for all moderate pressure bonding. Up to 50 psi. pressure over the plate area with shop air pressure 90 psi. Recommended for use by table top, flush door, plastic laminate and similar operations. Modifications made to meet your special conditions.

A rugged, dependable, trouble-free production unit—low initial cost, low upkeep, economical operation.

It costs you nothing to get the complete facts about Stroup's Air Hose Laminating Presses.
Write or phone today!

Stroup's Welding & Spring Shop
25170 W. Edison Rd., SOUTH BEND, IND.
Phone: CEntral 4-4303



matically turns stack of panels for further processing on reverse side.

FEATURES: This machine is charged and discharged by fork lift truck from either side. After stack of panels is placed into machine, button is pushed causing machine to automatically clamp stack and turn it 180 deg. after which machine automatically opens so that stack can be removed. Available designs handle panels measuring 4 x 8, 4 x 10 and 4 x 16 in. in stacks up to 36 in. in height.

Circle Item BP20 in Coupon on Page 163.

LITERATURE

Particle Board. Pope & Talbot, Inc., Dept. WP, 3070 N. W. Front Ave., Portland, Ore. Folder describes Customboard particle board available in three types—flake, blend and shavings board—for furniture, displays, partitions, underlayment applications.

Circle Item BP21 in Coupon on Page 163.

Veneer Roller Dryer. Moore Dry Kiln Co., Dept. WP, P. O. Box 4248, Jacksonville 1, Fla. Folder describes steam or gas fired roller dryer for fast uniform drying of all softwood and hardwood veneers. Also available is folder describing P A C veneer feeder which works in harmony with dryer.

Circle Item BP22 in Coupon on Page 163.

Molded Plywood. Ply-Curves, Inc., Dept. WP, 1615 Monroe Ave., N. W., Grand Rapids 5, Mich. Catalog illustrates line of molded or curved plywood shapes for furniture parts, boats and sporting goods, architectural panels, musical instrument parts, others. Includes drawings of all stocked forms reduced to 1/6 scale.

Circle Item BP23 in Coupon on Page 163.

Hardboards. Masonite Corp., Service Bureau, Dept. WP, Suite 2037, 111 W. Washington St., Chicago 2, Ill. New 12-page illustrated booklet "Guide for Product Designers" describes various hardboards, their properties and applications in wide range of fabrication.

Circle Item BP24 in Coupon on Page 163.

Paper Overlaid Veneer. Weyerhaeuser Co., Silvatek Div., Dept. WP, Tacoma 1, Wash. Series of pocket-sized folders feature uses—packaging, display, container

parts—for Ply-Veneer, company's paper overlaid veneer product.

Circle Item BP25 in Coupon on Page 163.

Combination Sander. Yates-American Machine Co., Dept. WP, Beloit, Wis. Bulletin No. 53 presents Model S-53 combination belt and drum sander which accommodates stock in widths to 55 in. and thicknesses to 6 in.

Circle Item BP26 in Coupon on Page 163.

Hardboard. Bowater Board Co., Dept. WP, Catawba, S. C. Four-page folder describes smooth-both-sides hardboard and gives brief background of company.

Circle Item BP27 in Coupon on Page 163.

Particle Screeners. Orville Simpson Co., Dept. WP, Cincinnati 23, Ohio. Booklet presents Rotex screeners, self-contained production screening machines for separating a broad range of materials according to particle size.

Circle Item BP28 in Coupon on Page 163.

Hardboard Parts. Hardboard Fabricators Corp., Dept. WP, 49 Empire St., Newark 5, N. J. Folder describes and illustrates various hardboard parts which company is equipped to fabricate from all types and thicknesses of hardboard.

Circle Item BP29 in Coupon on Page 163.

Laminated Plastics. Formica Corp., Dept. WP, 4550 Spring Grove Ave., Cincinnati, Ohio. Revised 1961 edition of Formica Designer's Fact Book contains property and application data covering 70 standard, special and molding grades of high-pressure thermosetting laminated plastics.

Circle Item BP30 in Coupon on Page 163.

Veneer Lathe Drive. Republic Electric & Development Co., Dept. WP, 2627 Western Ave., Seattle 1, Wash. Four-page brochure describes DC electric veneer lathe drive system which supplies ample torque to peel largest diameter log lathe can swing and maintains top sheet speed down to small core diameter.

Circle Item BP31 in Coupon on Page 163.

Core Stock. Pacqua, Inc., Div. Pacific Plywood Co., Dept. WP, P. O. Box 78, Dillard, Ore. Four-page brochure describes Par deLux', a completely filled and sealed-both-sides core stock designed for furniture, cabinets, paneling, partitions, doors, chests and drawer bottoms where glass smooth surfaces required.

Circle Item BP32 in Coupon on Page 163.

Press Loaders, Unloaders. Washington Iron Works, Dept WP, 1500 Sixth Ave., S., Seattle 4, Wash. Brochure contains in-plant views of hydraulic presses, press loaders and unloaders, and other accessory equipment in various hardboard, particle board and flakeboard installations in U. S., Canada and Australia.

Circle Item BP33 in Coupon on Page 163.

NOW...sand both sides simultaneously... in one pass...thru one machine!

The NEW SHAPE in wide abrasive belt sanding

...from TIMESAVER

The NEW Model TBH SPEEDBELT SANDER

The Model TBH incorporates both top and bottom wide abrasive belt sanding units into a single machine. Very compact, it uses no more space than that previously occupied by a single belt unit. Here are a few features:

- HOLD TO ± .002 TOLERANCES
- FEED SPEEDS TO 200 FPM
- UP TO 125 HP PER BELT
- ECONOMY IN FLOOR SPACE
- BUILT IN 50"—82"—75" WIDTHS.

This unit is built like a fine metalworking machine tool without the cost. Be the first to shave production costs with this amazing new "Timesaver"

WRITE TODAY

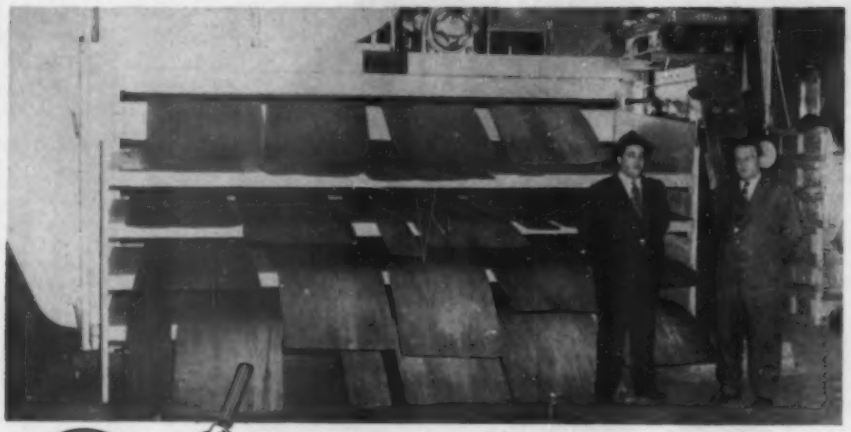
Phone: Kellog 7-8437

TIMESAVER SANDERS

Dept. C-6 Box 7446 • Robbinsdale Station Minneapolis 22, Minn.

The Moore Roller Veneer Dryer

Steam Or Gas Fired For Fast Uniform Drying



Moore Roller Veneer Dryer at Penokee Veneer Co., Mellen, Wis.

MOORE MODERN METHODS

Moore Modern Methods increase your profits from the drying of all softwood and hardwood veneers and panels. By using the Moore Roller Veneer Dryer — you increase the capacity of your plant — speed up drying — reduce steam consumption. Exclusive features in the Moore Dryer include: Two large insulated fans for each recirculating duct . . . heating coils above, below and between rolls for increased heating surface and less temperature drop . . . insulated venting stacks with assured air scoop control for each zone.

Moore has the answer for your drying problem. Write today for estimates on a Moore Roller Veneer Dryer to fit your needs.

MOORE DIVERSIFIED PRODUCTS MEAN MORE PROFIT FOR YOU!

- Dry Kilns (Track and Unit Package)
- Direct Heat Kilns
- Forced Air Dryers
- Cabinet Dryers
- Prefab Kiln Buildings
- Cross-Circulation Veneer Dryers
- Roller Veneer Dryers
- Steam Generators
- Recorder-Controller Instruments
- Fan and Heating Systems
- Dry Kiln Doors
- Dry Kiln Paints
- Moisture Meters
- Kiln Check-Up Service Plan
- Stackers (Kiln Load and Unit Package)
- Unstackers (Rake-Off, Tilting and Drop Out)
- Breakdown Hoists
- Loader Hoists
- Lumber Lifts (Cable and Hydraulic)
- Vertical Lifts (Cable and Chain)
- Transfer Cars (Power and Manual)
- Electric Swedes
- Turn Tables (Power and Manual)
- Lumber Conveyors (All Types)
- Sorting Chains
- Drop Sorters
- Dimension Sorters
- Tail-boys (Cut Off Saw and Gang Rip Saw)
- Power and Gravity Rolls
- Special Engineering Services

MOORE DRY KILN COMPANY

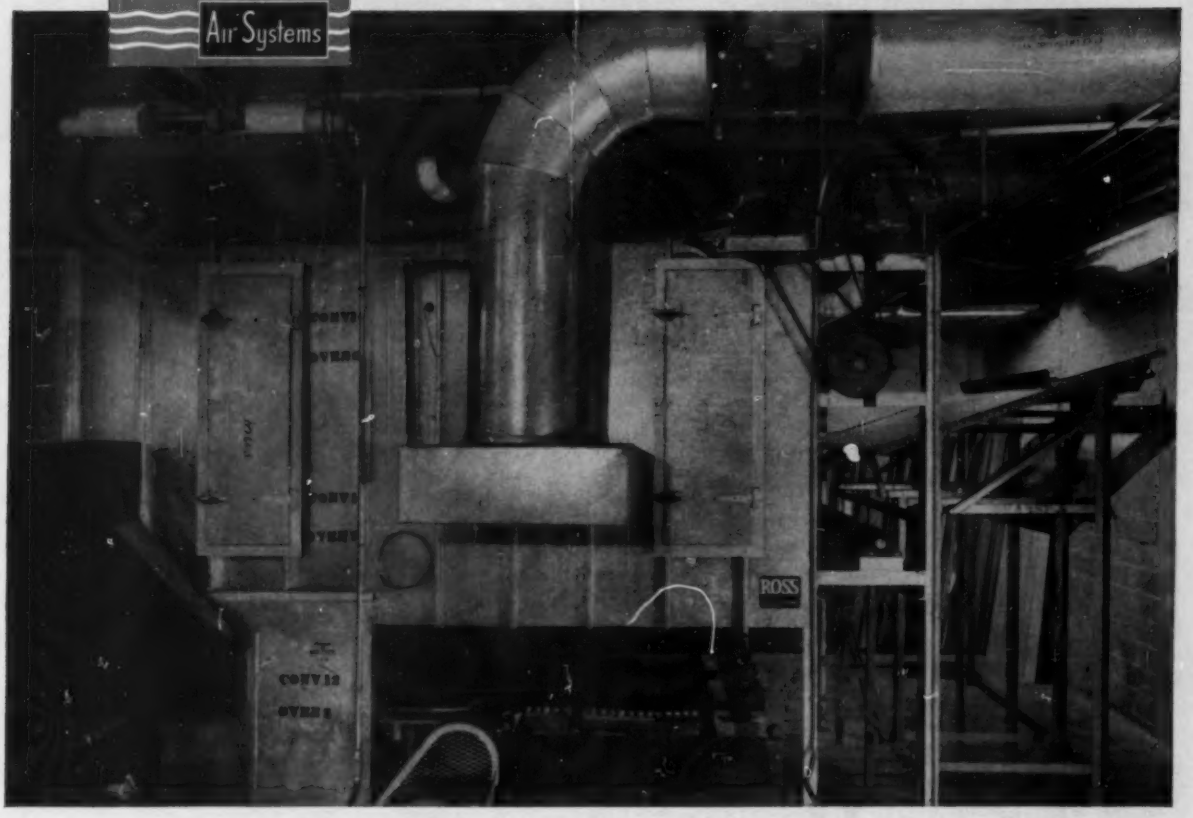
MOORE SINCE 1879

JACKSONVILLE FLORIDA · BRAMPTON ONTARIO · VANCOUVER BRITISH COLUMBIA · NORTH PORTLAND OREGON

World's Largest Manufacturers of Drying and Handling Systems for Lumber and Veneer

ROSS
Air Systems

Engineered Atmospheres for Better Processing



UNITED STATES PLYWOOD CORPORATION, ORANGEBURG, S. C.

Two Engineering Innovations Highlight This Plywood Finishing System

FAST DRYING—Application of high velocity drying to plywood finishing for the first time, saving in drying time up to 50%.

COMPACTNESS—All equipment and operation for a multi-color plywood line are within a floor area 115 x 128 ft. The high velocity dryer multi-deck drying units and ingenious arrangement of conveyors and transfers help to make this compactness possible.

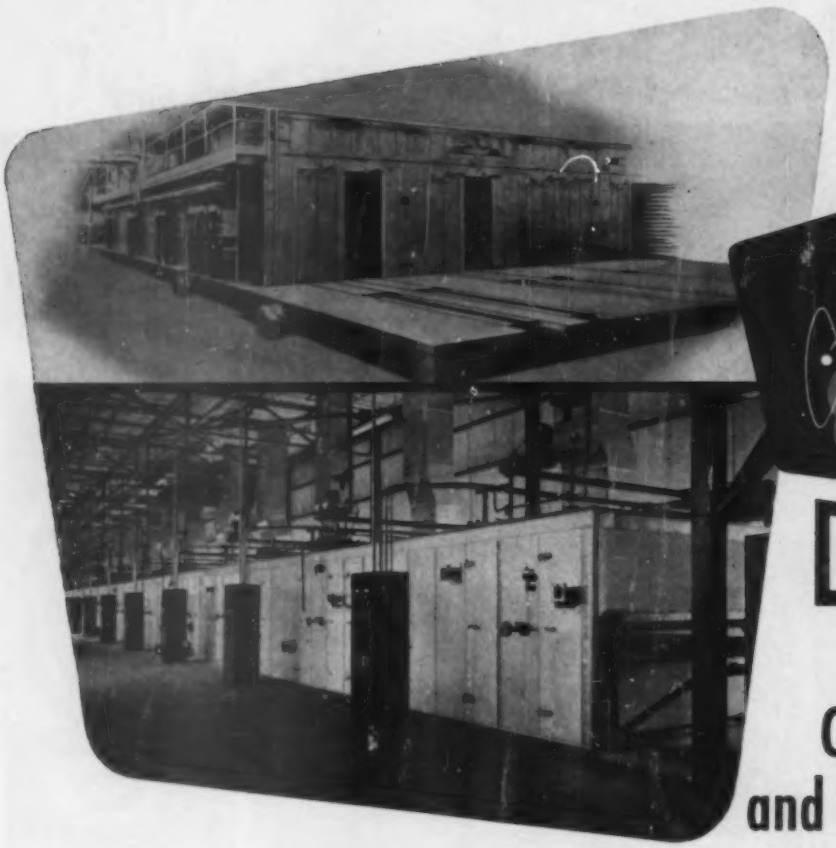
Ask to have one of our engineers drop in and describe the Ross ovens, dryers, controls and handling equipment which are incorporated in the United States Plywood Finishing Line at Orangeburg, S. C. This installation is an outstanding example of the work done by Ross Engineers in the important field of 'Engineered Atmospheres,' the basic principle in back of all industrial drying, baking and curing.

M-R

J. O. ROSS ENGINEERING

A Division of Midland-Ross Corporation/730 Third Ave., New York 17, New York

ATLANTA · BOSTON · DETROIT · LOS ANGELES · SEATTLE · MT. PROSPECT, ILL. · MOBILE



lanly

DRYERS for Hard Composition and Particle Board

When two of the *world's largest manufacturers of composition and building board* were ready to install continuous dryers to process their products, they logically looked to LANLY.

The resultant efficient installations illustrated above incorporate the multiple design and operational advantages which characterize all LANLY ovens and dryers.

Get a LANLY proposal *first*, without obligation.

You'll quickly see why this tried and proven organization has the respect and admiration of a multitude of owners and users of heat processing equipment for many varied industries.

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Atlanta, Georgia • Birmingham, Ala. • Boston, Mass. • Chicago, Ill. • Cleveland, Ohio
Toronto, Ontario • Columbus, Ohio • Detroit, Mich. • Buffalo, N. Y.
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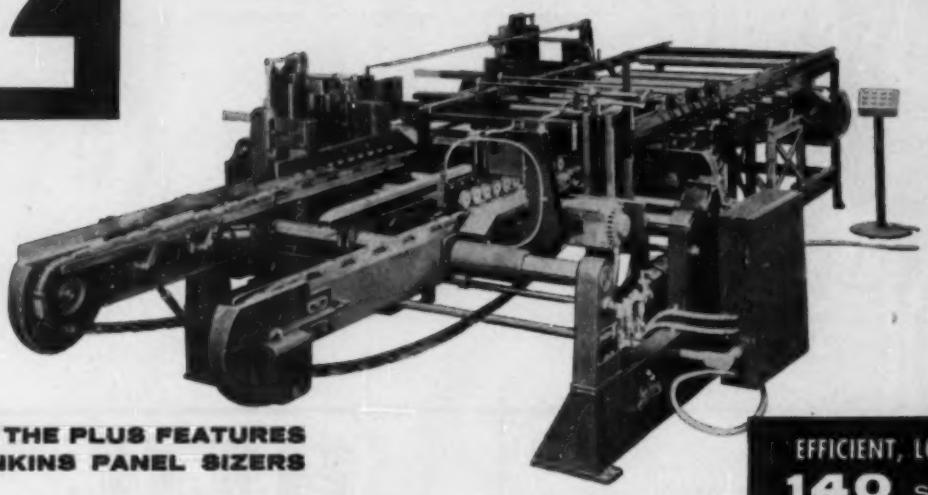
2 Jenkins AUTOMATIC PANEL SIZERS

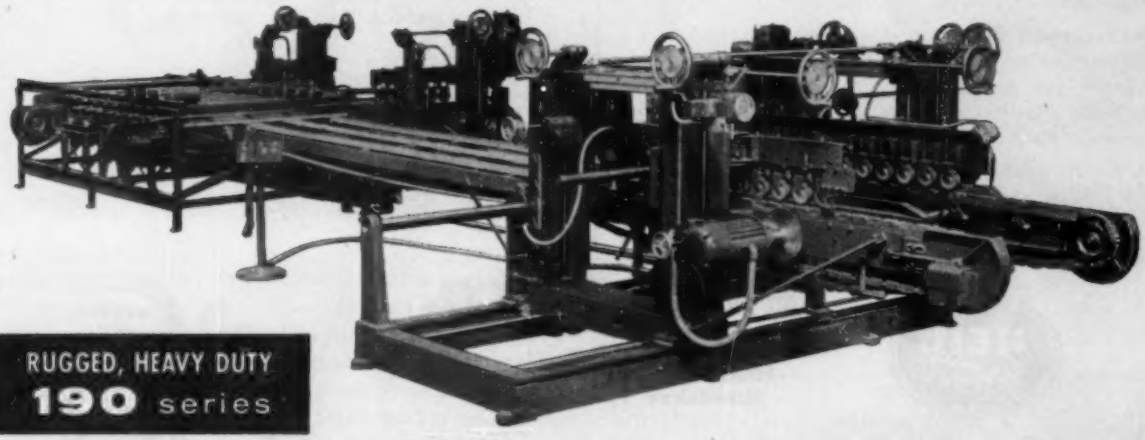


EFFICIENT, LOW COST
140 series

CHECK THE PLUS FEATURES OF JENKINS PANEL SIZERS

- ✓ *Open design speeds set-up — and clean-up*
- ✓ *Dual traverse gives maximum accuracy*
- ✓ *Warped panels stay flat under holddowns*
- ✓ *Smooth, accurate automatic transfer — no hoppering or extra handling*
- ✓ *Exclusive Jenkins Oilomatic feed chains*

Jenkins 140 and 190 Series door and panel sizers are setting new production economy records every day. Why? Because nowhere else can you buy equipment that can compare with Jenkins — in speed, accuracy, versatility, ruggedness and genuinely advanced engineering. Don't wait — check the Jenkins facts today.

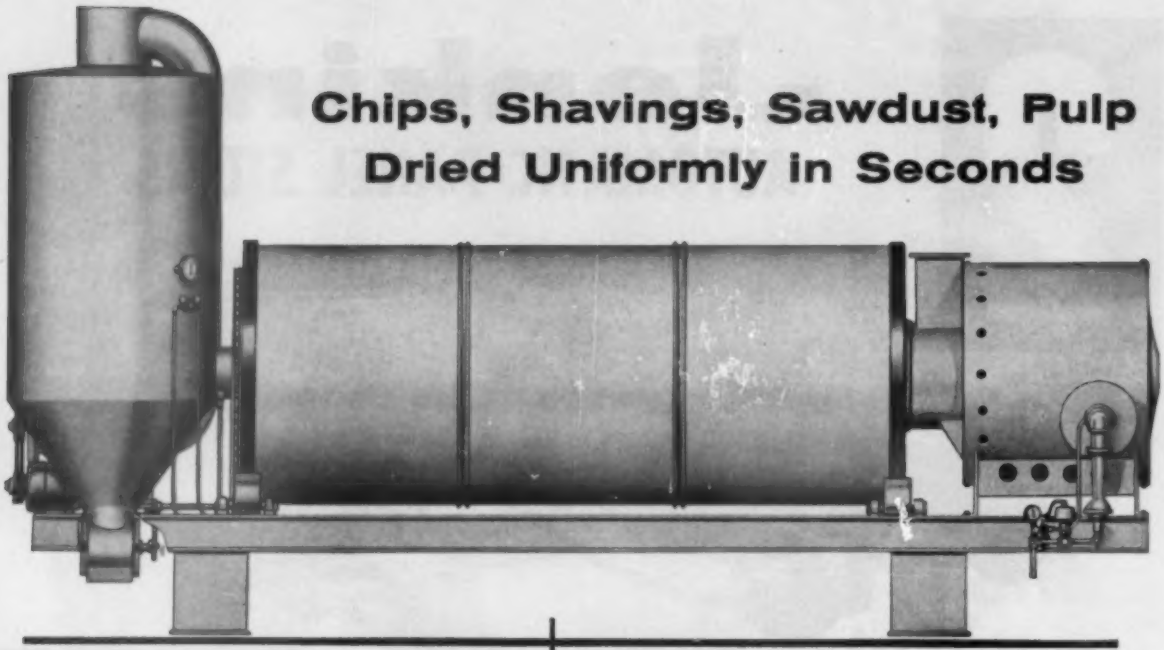


RUGGED, HEAVY DUTY
190 series

Modern Jenkins equipment can help you cut production costs. Write or call today.

JENKINS DEALERS: EAST — J Forbes, Montvale, N J • N C Whitlock, NYC • G Skinner, Deansboro, N Y • H W Krehnbrink, Baltimore • MIDWEST — Bob Holtsen, Dayton, Ohio • Tom Clancy, Detroit • Green (Weiss), Chicago • Evan Kroll, Peru, Ind • SOUTH — Garrison, Statesville, N C • W P Childs, Atlanta • Palmer, Jacksonville • Jack Flanders (Woods), Little Rock • Tri-State, Dallas • D M Patterson, El Paso • WEST — Cascade (Dowling), Chehalis, Wash • Kirk Hall, San Jose, Calif • Buck Patterson, Whittier, Calif • CANADA — Upton Brodeen & James, Toronto • Cascade (Dowling), New Westminster, B C

ENGINEERED AND BUILT BY KOHLER-JOA KJ **CORP., SHEBOYGAN FALLS, WISCONSIN**



Chips, Shavings, Sawdust, Pulp Dried Uniformly in Seconds

High production rate, uniform moisture, low operating costs — these are reasons why hundreds of plants use Heil dryers. They are reasons why you should investigate Heil dryers for your plant. Here are just a few of the proved features:

- Materials carried on a stream of hot air provide ideal exposure time for each particle based upon weight due to moisture content.
- The exclusive three-pass drum features an expanding cross-sectional area which provides three-stage drying in one machine.
- Compound flights on drums continuously shower the product into the hot air stream . . . assure ideal air activity in all drum areas . . . provide maximum drying capacity within a compact unit.
- Makes efficient use of radiant heat given off by center and intermediate cylinders.

HEIL DRYERS in action

Cascades Plywood Corporation, Lebanon, Oregon, reduces moisture content of wood fiber from 50 percent (dry wt. basis) to 5 percent in 12 seconds.

• • •

Pope & Talbot, Oakridge, Oregon, increased sales of their particle-board plant 16 percent through better utilization of wood residue. Two Heil Dryers are used.

• • •

Brownsville Particleboard and Associated Products, Inc., Brownsville, Oregon — Heil Dryer plays an important part in putting "automation in practice," reduces moisture content of Douglas fir shavings to about 6 percent.

WRITE, WIRE OR CALL—

HEIL Quality PRODUCTS

THE HEIL CO.

(Manufacturers of Ardrier Dehydrators for the Arnold Dryer Co.)

3000 West Montana Street
Milwaukee 1, Wisconsin

▲ Use Reader Service Coupon on Page 163. ▶

CUTTING COSTS ACROSS THE BOARD

Acme Idea Man E. H. Jones (left) views his Idea No. S3-64 at Gray Products Company, Waverly, Virginia.

Handled individually, the bulk and weight of particle board sheets would make loading, unloading and storage costs prohibitive. But unitized into compact, solidly secured bundles, they're a cinch to handle and ship.

Acme Steel Strapping provides the efficient, low cost answer for packaging "Graco" Flakeboard. The sheer simplicity of this method enables the operator to secure stack after stack quickly and smoothly throughout the day. And, it easily handles the wide range of sizes and thicknesses.

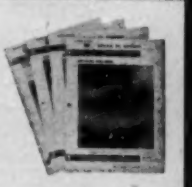
Your Acme Idea Man is an expert at developing efficient, low cost strapping methods. Call him, or clip the coupon for further facts.

ACME STEEL

IDEA LEADER IN

STRAPPING

ACME STEEL COMPANY
Acme Steel Products Division
Dept. WDS-120
135th St. & Perry Ave.,
Chicago 27, Ill.



Please send me Idea No. S3-64 and examples of how major companies in my field use Acme Steel Strapping.

*Name*_____

*Title*_____

*Firm*_____

*Address*_____

*City*_____ *Zone*_____ *State*_____

Board and Panel Products Reference Guide

This reference guide is presented as a helpful information service for readers, but is not intended as detailed specifications. The products of 16 hardboard manufacturers and 34 particle board manufacturers as well as both softwood and hardwood plywood producers are listed on the basis of data supplied up to presstime and we cannot guarantee that the listings are completely representative. For more detailed information on specific products, contact the manufacturer or WOOD & WOOD PRODUCTS.—The Editors.

Particle Board

BRAND NAME OR NO.	TYPE OF BOARD	PROCESS	SPECIES USED	SPECIFIC GRAVITY (Density)	STANDARD PANEL SIZES	THICKNESS (In.)	MODULUS OF RUPTURE (Min/psi)	SCREW HOLDING SURFACE (Lbs.)	WATER ABSORP. (Max. % Weight 24 Hours)	SPECIAL TEXTURE OR FINISH AVAILABLE	USES (See Code at End)
ABITIBI POWER & PAPER CO. LTD.											
Placewood	Flake	Multi-plat.	Poplar	0.60	4x8	1/4-1 1/8	3,200	350	18		5, 7, 11-13, 15, 20, 23, 24
AMERICAN PARBOARD CORP., DIV. OF NATIONAL STARCH & CHEMICAL CORP.											
Parflake	Flake	Multi-plat.	Hardwood	40	5x8	3/8 to 1 1/4					1-3, 6-17, 23
BROWNSVILLE PARTICLE BOARD & ASSOCIATED PRODUCTS, INC.											
Neopac	Particle	Multi-plat.	Douglas fir	40	4x8	1/4-1	2,000	225	12		2, 3, 8, 13-15, 20, 24
CAROLINA FOREST PRODUCTS, INC.*											
Dina-Shav	Shavings	Multi-plat.	Pine	50	5x8	3/8-1/4	2,500	350	10		2, 4, 7, 8-10, 15-19, 21, 23, 24
"	"	"	"	46	"	"	2,245	280	"		4, 8, 13, 15, 18, 19-21
Shav-Board											
CAVALIER CORP.											
Core	Particle	Multi-plat.	Hardwood	45	4x8	1/2, 5/8, 3/4, 7/8, 1 1/8	1,800-2,000	675 to 685	18 to 20		3, 4, 6, 11, 13, 20, 23, 24
Underlayment	"	"	"	"	"	"	"				13
CHAPWOOD, INC.											
	Particle	Multi-plat.	Fir	0.654	4x8	3/8-3/4	3,000	350	12	Fiber-clad smooth	2, 3, 12, 13, 15-17, 20, 24
CLEAR FIR SALES CO.*											
Clearex Sand-Grit	Flake	Multi-plat.	Douglas fir	.90-1.00	4x8	1/4	4,500		8.8	Embossed wood grain, plain or V-grooved	15, 16
" Std.	"	"	"	"	"	"	"		"	Hardboard-type finish, plain or V-grooved	"
" Classic	"	"	"	"	"	"	"		"	Veneered plain or V-grooved	"
COLUMBIA HARDBORD CO.											
Cedawood	Flake	Multi-plat.	Alder, cedar	42.2	4x8	3/16-3/4	3,700	263	19	Fiber coated two sides	2, 3, 7, 12, 13, 15-17, 20
" TCC	"	"	"	"	"	"	"	"	"	Factory sealed, water repellent	
" Fire Retardant	"	"	"	"	"	"	"	"	"	Colorless, non-bleaching	
DIXIE CHIPBOARD CO.											
	Shavings	Vertl. Extru.	Pine	.68	cut-to-size	1/2-2	1,500	450		Tubular	3, 6, 17
FORMICA CORP., SUB. OF AMERICAN CYANAMID CORP.											
Formica Flakeboard	Flakes, fines, three-layer	Multi-plat.	Southern pine	45	Up to 5x12	3/8-3/4	3,500	380	12		2, 3, 7, 15, 17, 20, 24
GRANITE BOARD DIV., NATIONAL STARCH & CHEMICAL CORP.											
Core	Splinter	Multi-plat.	White pine	0.65	4x8	3/8-1 1/8	1,700	225	20		2, 3, 6-8, 15-21, 24
" Underlayment	"	"	"	"	"	"	"	"	"		13, 15
GRAY PRODUCTS CO., INC.											
Graco	Flake	Multi-plat.	Pine	40-41	4x8, 4x10, 5x10	1/2-1 3/16	3,300	375	15	Double sanded	2-4, 7, 8, 10, 16, 17, 21, 23, 24
Graco	Particle	"	"	"	"	"	2,200	300	"	"	2-4, 7, 8, 13, 15-21, 23, 24
HART WOOD PRODUCTS, INC.											
	Chip	Vertl. Extru.				1 7/16, 1 1/2, 1 5/8, 1 3/4				Fluted, veneered, edge-banded	2, 3, 6-9, 20
HASKINS WOOD PRODUCTS, OREG. LTD.*											
Unipar	Particle	Multi-plat.	Douglas fir	Up to 60	Up to 49 1/2x 97 1/2	1/4 to 3/4					
Tripar	"	"	"	"	"	"					
JASPER AMERICAN MANUFACTURING CO.											
Stylemaster	Particle	Vertl. Extru.	Pine	.65	cut-to-size	9/16-1 7/8	1,200				3, 6, 8-10, 15, 17, 20, 24
LEITER CEDAR PRODUCTS, INC.											
Cedawood	Flake	Multi-plat.	Alder, cedar	42.2	Up to 48x122"	1/4-1 1/4	3,700	263	15		2-4, 6-8, 13, 15-17, 20, 23, 24
LONG-BELL DIV., INTERNATIONAL PAPER CO.											
Ves-O-Wood	Flake	Multi-plat.	Hemlock-fir core	.65-.90	1x1, 4x8	1/4-3/4	3,500-4,500	200-275	13-16	Decorative hardwood & softwood veneer overlays, V-grooved	2, 3, 7, 8, 15-17, 20, 21
Flakewood	"	"	"	.65-.95	"	"	"	"	14-18	Decorative pine, maple, Phil. mahogany, cedar flakes, V-grooved	"
Flakewall	"	"	"	"	4x8	"	"	"	"	Decorative fir flakes	"
Long-Bell Flakeboard	Flake-thin	"	"	.85-.98	"	3/32-3/8	4,000-6,000		14-20	Fines & fiber overlay	2, 3, 5, 7, 8, 11-13, 16, 17, 20, 22, 24
"	Flake-thick	"	"	40-50 lb.	"	3/8-3/4	3,250-4,500	200-275	12-18	"	2, 3, 6-8, 11-13, 15-17, 20, 22, 24
MACMILLAN, BLOEDEL & POWELL RIVER, LTD.											
Powell River Flakeboard	Flake	Multi-plat.		0.60		3/4	3,400	350	20		
PACOMA DIV., PACIFIC PLYWOOD CO.											
Par-Wood	Particle	Multi-plat.	Douglas fir	40	48x96"	1/4-3/4	1,900	225	12	Primed, veneered	2, 3, 8, 13, 15, 17, 20, 21, 24
"	"	"	"	44	48x98"	As required	2,200	250	10	"	24
Par-Wood Core	"	"	"	48	"	"	2,600	275	"	"	2, 3, 7, 17, 20, 24
Duo-Faced	"	"	"	40	48x96"	1/4				Embossed both sides	7, 8, 15, 16, 21
Par-Tex	"	"	"	"	"	3/8-3/4	1,900	225	12	Primed, V-D (vert. groove)	12-14, 16, 20
"	"	"	"	44	"	"	2,200	250	10	Primed	12-14, 16, 20
Par-Tile	"	"	"	55	9x9"	1/4 to 3/8	3,800		8	Finished	Flooring
IBB	"	"	"	40 to 55	any above	any above				Primed, veneered, finished	2, 3, 7, 12-15, 17, 24
Duk-Tile	"	"	"	55	4x4	3/8	3,800		8	Finished	Flooring
Par de Lux	"	"	"	44	4x8	1/4, 3/4	2,200		10	Filled	2, 3, 7, 8, 15-21, 24
POPE & TALBOT, INC.*											
Contemboard Custom-Bond	Shavings	Multi-plat.	Douglas fir	0.64	Up to 54x144"	1/4-1	2,000	250	15	Prefilled, preservative-treated	1-4, 6-8, 11, 13, 15-24
" Custom-Blend	Shavings & flakes	"	"	"	"		2,500	275	16	"	"
" Custom-Flake	Flakes	"	"	"		3/8-1	3,500	300	18	"	"
ROCK ISLAND MILLWORK CO.*											
Resinwood	Particle	Multi-plat.	Pine	55	49x97"	3/16-1/2	3,500	600	10	Sanded only	2, 3, 8, 11, 20
Resinwue	"	"	"	62	"	"	3,500	"	18	"	2, 3, 8, 11, 17, 20, 24

Continued

Lakeland Door Company, Trims Doors and Operating Costs with a Mereen-Johnson No. 600 DOUBLE CUT-OFF SAW

"We've realized big savings since our Mereen-Johnson No. 600 Double Cut-Off Saw was installed three years ago," according to B. A. Kennen, Superintendent of Lakeland Door Co., St. Louis Park, Minn. "Our production capacity is up over previous sawing methods and we now produce over 600 laminated wood doors—trimmed both directions—in an eight hour shift. If necessary, we could produce up to 1,000 finished pieces in the same time and still keep within the required close tolerances."

Quick set-up time is a feature of Mereen-Johnson equipment as provided by a patented snap dog arrangement that allows fast adjustments to be made for varying size doors with a minimum of downtime. Since most of Lakeland's work is "custom-tailored" for individual home contractors, sizes may vary as frequently as every five to ten doors trimmed. This requires fast adjustments to maintain scheduled production. "In a normal shift we may trim as many as 20 different size doors."

While the No. 600 is of medium size, it is well suited for this type of operation and it displays all the quality and workmanship of much larger units. The basic construction of the No. 600 is compact and allows for fast, easy adjustments. Maintenance is practically nothing!

The No. 600 Double Cut-Off Saw is available with trims only—or with tilting cope motors and stationary dado arbor. Special attachments are available as optional equipment.

MEREEN-JOHNSON MACHINE CO.

400 LYNDALE AVE. NO. • MINNEAPOLIS 12, MINNESOTA

CUT-OFF SAWS	DOUBLE CUT-OFF SAWS	MULTIPLE CUT-OFF SAWS	GANG RIP SAWS
TENONERS	VENEER & PLYWOOD SIZERS & JOINTERS		RESAWS

For Bulletin No. 600-700, inquire on your company letterhead.

Particle Board

BRAND NAME OR NO.	TYPE OF BOARD	PROCESS	SPECIES USED	SPECIFIC GRAVITY (Density)	STANDARD PANEL SIZES	THICKNESS (In.)	MODULUS OF RUPTURE (Min/psi)	SCREW HOLDING SURFACE (Lbs.)	WATER ABSORP. (Max. % Weight 24 Hours)	SPECIAL TEXTURE OR FINISH AVAILABLE	USES (See Code at End)
SOUTHERN PLASWOOD CORP.											
Karnak 440	Shavings	Multi-plat.	Pine	44	4x8	3/8-1 1/4	1,350	275	18	S2S, cut-to-size	3, 15, 17, 20
" 460	"	"	"	46	"		1,950	325	12	S2S, cut-to-size, primable & knife-sealed 1S	"
" 520	"	"	"	52	"		2,750	460	11	"	"
" 600	"	"	"	60	"		5,350	500	10	"	"
SUPERWOOD CORP.											
Multiply	Flake	Multi-plat.	Aspen	40	4x8	5/8	3,000	65	25	Temp. fiber surf. 2S	12-14, 16, 20, 24
SWAIN INDUSTRIES, INC.											
Trim-wood	Splinter	Multi-plat.	Hardwood, pine	48	36x108"	1/4, 5/8, 1/2	3,800	385			4, 8, 11, 15, 17, 25
"	"	"	"	42	37x96"	5/8, 3/4	3,400	335			2, 3, 6-8, 15, 17, 20, 24
"	"	"	"	37	48x96"	1/2-1 1/4	1,352	282			"
"	"	"	"		"	5/8-1 1/4	3,480	329		Hardboard-faced	2, 3, 6-8, 17, 20, 24
STORKLINE CORP.											
No-Tox	Particle	Multi-plat.	Hardwood	42	92x44"	3/4-1	1,700	275	15	Veneered	2, 3, 7, 8, 13, 24
U. S. KORBOARD, DIV. J. J. ROGERS CO.											
Korboard	Chip	Hori. Extru.	Poplar, aspen	40	4 x any length	1/2-2	1,800-2,000	500	50		2, 4, 6, 16, 20, 22, 24
U. S. PLYWOOD CORP.											
Novaply	Flake, chip	Multi-plat.	Douglas fir	.665	Up to 4x16 & 6x12	3/8-1 3/4	2,500	290		Filled	2, 3, 6, 7, 8, 10, 15-24
"	3-layer flake	"	Pine, poplar	0.62-0.67	Up to 5x16	5/16-1 3/4	4,000	500		"	"
WABASH SCREEN DOOR CO.*											
Wabash	Particle	Multi-plat.	Pine	42	66x72	1/4-7/8	1,800	270	9		2, 3, 7, 8, 15, 17, 19-21, 23, 24
WEST VIRGINIA PULP & PAPER CO.											
Ventwco	Flake	Multi-plat.	Aspen	40	4x8, cut-to-size	3/8-1 1/8	3,500	250	15	Cardboard, phenolic overlay, hardwood overlays	1-3, 6-9, 13, 16, 17, 19, 20, 24
WEYERHAEUSER CORP., RODDIS DIV.*											
Timbrel	Shaving	Multi-plat.	Fir	0.65	48x96"	3/8 to 1 1/8	3,500			Veneered, filled	4, 7, 8, 11, 14, 15, 17, 19-21, 23, 24
WEYERHAEUSER CO., SILVATEK DIV.											
Yarnbase	Splinter	Multi-plat.		.65	4 1/2x16, down	1/2-1 3/16				Sanded	
Versoflake	Flake	"		"	"	1/2, 5/8, 3/4	3,200	320		Filled, veneered, sanded	2, 3, 6-10, 15, 15-21, 23, 24
Yarnflake	"	"		.61	"	7/8, 1	2,300	250		"	"
Versoflake	"	"		.58	"	1 1/8, 1 3/16	1,750	200		"	"
Versoboard	Shavings	"	Douglas fir	.65	4x8	3/8-1	2,000	280	8	Sanded	2, 3, 7, 10, 13, 15, 17, 19-21, 24
WOODCORE, INC.*											
ScotBord	Splinter	Vert. Extru.	Oak, maple	40, 44, 48	50"x any lgth., cut-to-size	1/2-1 1/2	1,600,1,800, 2,000	300, 350, 400		Edge-banded, veneered, phenol paper overlay	3-4, 6, 13, 17, 20, 21, 24
WOOD FIBREBOARD CO.											
Duraflake Furniture	Shavings-flake	Multi-plat.	Douglas fir & hemlock	40	5x16	3/8 to 1 5/16	3,000	300	9		2, 3, 7, 8, 17-21, 24
"	Shavings	"	"	"	"	"	2,500	275	"		2, 3, 6-8, 17-21, 24
" Underlayment	"	"	"	"	"	"	1,800		"		1, 13
WINNEWOOD PRODUCTS CO.*											
Caruso	Shavings	Multi-plat.	So. pine	45	4x8	3/8 to 1 1/4	2,000	No. 10 screw 5/8 in. deep 400	17		2, 3, 8, 10, 12, 13, 15, 16, 20-22, 24
Arcuex	"	"	"	56	"	"	2,800	600	9		7, 8, 15, 17, 21, 22, 24
601	Particle	"	"	65	"	3/8 to 1	4,000	800	5		7, 8, 11, 17, 21, 22, 24
601F	"	"	"	61	"	3/8 to 3/4	"	750	"		17, 24

*Board available with Phenolic Resin Binder

USE CODE: The numbers in the particle board "Uses Column" preceding are keyed with use descriptions printed below.

1–Bases, pallets
2–Cabinet members
3–Casegoods members
4–Chair parts
5–Cross bands
6–Door cores
7–Display fixtures
8–Juvenile furn. parts
9–Millwork, trim
10–Musical instruments
11–Patterns, jigs
12–Sheathing, roof deck
13–Floor underlay
14–Siding
15–Paneling
16–House trailers
17–School furn.
18–Spec. indust. shapes
19–Sporting goods, games
20–Table, counter tops
21–Toys & Novelties
22–Truck, trailer liners
23–Uphol. furn., beds
24–Veneer, plastic underlay

Hardboard

BRAND NAME OR NO.	CLASSIFICATION TYPE 1 (Standard) Cl. 1 60-75 Lb. Cu. Ft.	Cl. 2 50-60 Lb. Cu. Ft.	TYPE 2 Treated or Tempered	SPEC. GRAV. (Density)	SURFACE S1S	S2S	NOMINAL THICKNESS (Inches)	STANDARD PANEL SIZES	MODULUS OF RUPTURE (Min/psi)	TENSILE STRENGTH (Min/psi) A	B*	WATER ABSORP. (Max. % Weight 24 Hours)	SPECIAL TEXTURE OR FINISH AVAILABLE	USES (See Code at End)
ABITIBI CORP.														
Plateboard Standard	X					X	1/8, 3/16, 1/4, 5/16	4x4 - 4x16					Plain or Fil-Coat	
" "	X				X		1/8, 3/16, 1/4	"					Coated	
" Tempered			X			X	1/8, 3/16, 1/4, 5/16	"					Plain or Fil-Coat	
" "			X				1/8, 3/16, 1/4	"					Coated	
" Special		X	X			X	.250	"					Plain or Fil-Coat	
" Utility		X			X		1/4	4x4, 4x8, 4x16					Coated	
" Woodgrain					X		"	"					Walnut, oak, others, grooved, perf. or plain	
" "	X				X		1/8	"					Walnut, oak, others	
" Automotive	X				X		1/12, 1/10	4x4, 4x16					Plain or coated	
" Grooved			X			X	5/16	4x4, 4x8, 4x16						
" Horizontal			X			X	1/4, 5/16	12 & 16" x 96 & 192"						
" Perforated	X	X	X		X	X	1/8, 3/16, 1/4, 5/16	4x4 - 4x16					Plain or Fil-Coat	
" Laminated	X	X	X		X	X		4x12						2, 4, 7, 16
AMPAC HARDBOARD CO.														
Standard	X					X	1/10 - 3/8	4x7, 4x8, 5x7, 5x9	6,000 - 7,000			18 - 25		1, 3, 5, 8, 17
Cross Banding	X					X	1/16 - 3/16	"	6,000 - 7,500			20 - 25		5, 6, 20
Medium Density		X				X	1/8 - 3/8	"	3,500			25 - 27		1, 12

Continued

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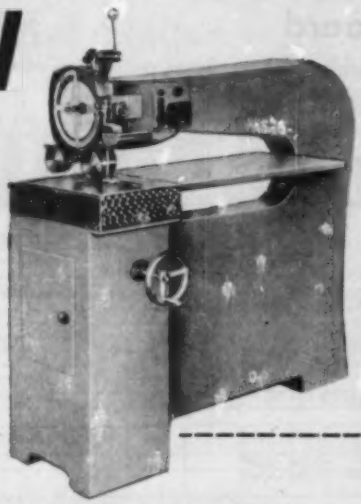

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driQuik DIVISION DRY CLIME LAMP CORP. GREENSBURG, INDIANA

Hardboard

BRAND NAME OR NO.	CLASSIFICATION TYPE 1 (Standard) Cl. 1 / 60-75 Lb. Cu. Ft.	Cl. 2 / 50-60 Lb. Cu. Ft.	TYPE 2 (Tempered or Tempered)	SPEC. GRAV. (Density)	SURFACE S1S	S2S	NOMINAL THICKNESS (Inches)	STANDARD PANEL SIZES	MODULUS OF RUPTURE (Min/psi)	TENSILE STRENGTH (Min/psi) A	B*	WATER ABSORP. (Max. % Weight, 24 Hours)	SPECIAL TEXTURE OR FINISH AVAILABLE	USES (See Code at End)
ANACORTES VENEER, INC.														
Armorbord	X			1.00	X		1/8	4x8	6,500		200	20		1-3, 6, 8, 10, 15, 17, 19, 20
"	X			1.05	X		5/16	"	"		"	16		2-4, 6-8, 13, 15-17, 19
"	X			1.08	X		1/4	"	"		"	12		4, 7, 8, 11, 13, 15-17
Medium Density	X			1.00	X		"	"	4,500			15		8, 12, 13, 15-18, 20
"	X			"	X		5/16	"	"			20		8, 12, 13, 15-18
BOWATER BOARD CO.														
Panel		X		.95		X	1/8	4x6 - 4x16	3,500	1,500		30		
"		X		"		X	3/16	"	"	"		27		
"		X		"		X	7/32	"	"	"		"		
"		X		"		X	1/4	"	"	"		"		
Standard	X			1.05		X	1/8	"	6,000	3,500		20		
"	X			"		X	3/16	"	"	"		18		
"	X			"		X	1/4	"	"	"		16		
Underlay				.90		X	.215	4x3, 4x4						
CASCADES PLYWOOD CORP.														
L-50	X			1.08		X	1/10 - 3/8	4x8	3,500 - 5,800			18 to 6	Perforated, striated	1, 3, 5-8, 11-14, 16-18, 20
PL-90	X			1.12		X	"	"	6,800 - 7,000			12 to 5	"	5-8, 13, 16, 18, 20,
UL-50		X		1.00		X	1/10 - 1/4	4x8 to 50x100"	3,800 - 4,200			28 to 14		1, 3, 4, 7, 8, 12, 13, 17, 19
EVANS PRODUCTS CO.														
Evanite Std. smooth	X			.95	X		1/10	4x8	5,500	3,100	3,100	20		1-3, 5-8, 11-17, 19, 20
"	X			.97	X		1/8	"	6,000	3,200	3,200	16		"
"	X			.98	X		5/16	"	"	3,000	3,000	14		"
"	X			.96	X		1/4	"	5,800	"	"	12		"
" Temp. smooth			X	.99	X		1/10	"	8,500	5,200	5,200	"		All
"			X	1.01	X		1/8	"	9,200	"	"	11	Factory-sealed	"
"			X	1.02	X		5/16	"	"	"	"	9	"	"
"			X	1.00	X		1/4	"	9,100	5,000	5,000	"	"	"
"			X	1.02	X		1/4e	"	9,200	"	"	"	"	"
" Economy		X		.92	X		1/4	"	5,400			11		1-3, 5-8, 12-14, 19
" Rib-Bord	X		X		X		All	"					Striated	2, 8, 12
" Deco-Bord	X		X		X		"	"					Bead-like texture	2, 7, 8, 17, 18
" Corru-Bord			X		X		1/10	"					Wavy corrugated	7, 13, 14
" Perf-O-Bord	X		X		X		All	"					Regular or scatter holes	2, 3, 7, 8, 12-15, 17
" Driftwood	X		X		X		"	"					Factory-finished	1-3, 5-8, 11-17, 19, 20
" Panels 4 & 8	X		X		X		1/4, 1/4e	"					U-grooved	Paneling & Siding
" V-Plank	X				X		1/4	"					V-grooved	Paneling
" V-Square	X				X		"	4x4					"	Ceilings
" Garage liner	X		X		X		"	4x8					Perforated	Paneling
" Prime-Bord			X		X		1/4, 1/4e	"					Factory-primed	Exterior Siding
FOREST FIBER PRODUCTS CO.														
Standard	X			1.00	X		1/8	4x4 - 4x16	6,000	3,100		17.5		1-3, 5-8
"	X			"	X		5/16	"	"	3,000		17.0		11-17, 19
"	X			"	X		1/4	"	5,500	2,900		16.0		20
Tempered			X	1.02	X		1/8	"	9,000	5,200		10.0	Pre-sealed	1-3, 6-8
"			X	"	X		5/16	"	"	"		9.0	"	11-18, 20
"			X	"	X		1/4	"	8,500	4,600		7.0	"	
Sandalwood			X	"	X		(Same as tempered FOREST Hardboard above)						Pre-sealed & finished	2-3, 7-8, 12-17
Thriftwood		X		.80	X		1/4	4x4 to 4x16	3,500	2,000		18.0		1-3, 5-8, 11-17, 19-20
Underlayment		X		.85	X		.215	4x4 to 4x8	"	"		"	Planed	Underlayment
Thriftone		X		.83	X		1/4	4x4 to 4x16	"	"		10.0	Pre-sealed & finished	Wall Panels
Punched Board	X			1.00	X		(Same as corresponding items above)						Perforated (round or square)	2, 7, 13, 14, 15, 17
		X		.80	X									
			X	1.02	X									
Forasli (Standard)		X		.80		X	1/2, 5/8, 3/4	4x8	3,500	2,500		12.0		3, 7, 8, 11, 13, 14, 16, 17
Forasli (Sandalwood)		X		.83		X	1/2, 3/4	"	4,500	3,500		6.0	Pre-Sealed & finished	2, 7, 16
Tempered Rustic			X	.92	X		1/4	4x4 to 4x16	7,500			7.9		Siding, wall panels
Forest 3/8 Standard		X		.80	X		.370	"	2,500			18.0	Rustic, smooth or random plank	"
Forest 3/8 Tempered			X	.85	X		"	"	3,750			9.0	"	"
Fenestra	X			1.02	X		1/4	"	7,500	4,000		19.5	Deep groove striated	"
Tee-N-Gee	Manufactured from Standard, Thriftwood, Tempered, Thriftone & Sandalwood						"	16"x96"	Same as above on listed products				T&G on 16" centers	Wall panels
EDWARD HINES LUMBER CO.														
Standard Allwood	X			.96	X		1/8	4x1 - 4x16	5,500			20	Prime coat available	1, 6-8, 13, 19
"	X			.98	X		5/16	"	"			18	"	"
"	X			"	X		1/4	"	"			16	"	"
"	X			"	X		5/16	"	"			14		1-5, 8, 12-14, 18
Tempered Allwood			X	1.02	X		1/8	"	9,000			15	"	1, 5, 11, 12, 14, 16, 17
"			X	1.04	X		3/16	"	"			12	"	"
"			X	"	X		1/4	"	8,500			10	"	"
"			X	"	X		5/16	"	8,000			9		"
Regular grooved			X		X		"	"					Grooved	2, 12
Allwood Weatherbord	X		X		X		1/8, 1/4	"						2, 8
" Shobord	X		X		X		1/8, 5/16, 1/4	4x1 to 4x8						2, 4
Preat-panel		X			X		1/4	4x8						7, 8, 13
Standard Shobord	X				X		1/8, 1/4	4x1 to 4x8					Perf. (sq. holes)	7, 14
Tempered "			X		X		"	"					"	"
Preat-panel		X		.92	X		5/16	4x8 - 4x16	3,800			25		2, 6-8, 19
"		X		.89	X		1/4	"	5,000			30		"
Diamond Shobord			X		X		1/8	4x8						2, 4, 7
Heather "	X		X		X		1/8, 1/4	"					Prefinished, perforated	2, 7
" Dia. Shobord			X		X		1/8	"					"	"
Stribord			X		X		1/8, 1/4	4x1 - 4x16					Striated	2, 6-8, 12
"			X		X		5/16	"					"	"
Tempered Stribord			X		X		"	4x1 - 4x12					V-grooved, striated	2, 12
Weavbord			X		X		1/8, 1/4	4x8					Basketweave	6-8, 12
Shadobord			X		X		"	"					Shadow embossed	7, 8, 12
Louverbord			X		X		"	"					Louver embossed	2, 6-8, 12
H. Plankbord		X			X		1/4	4x8					Prefinished, V-grooved	"
Heather Tilebord		X			X		1/4	4x4					Prefinished, tiled	"
Underlayment		X			X		.215	4x3, 4x4						20
Temp. Shadobox, Temp. Starpoint, Temp. Stribord Shadobox, Temp. Stribord Starpoint			X		X		1/8	2x8					Perforated design	2, 6, 7, 12

Continued

build fine furniture without cross banding with

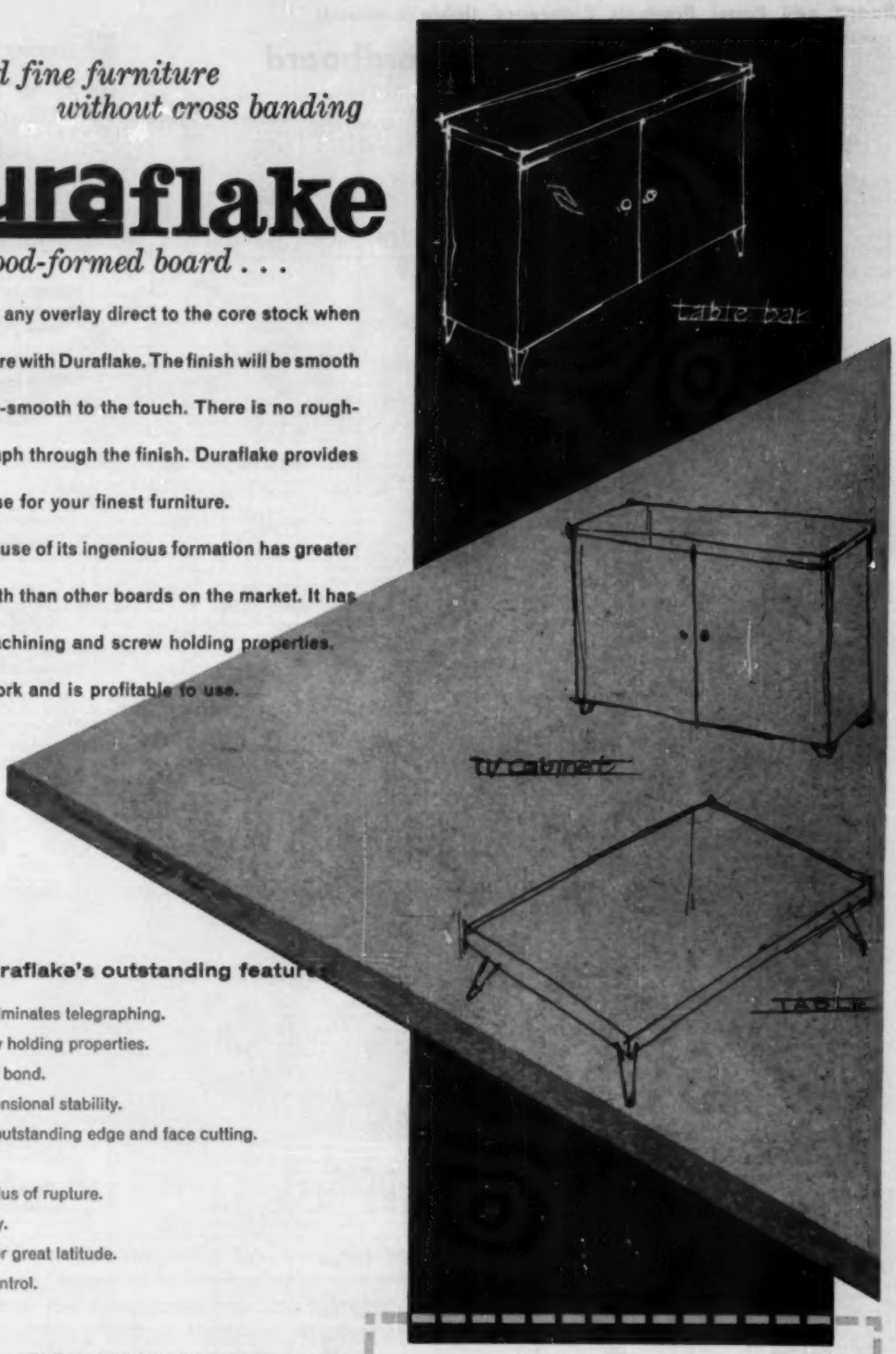
Duraflake

a new wood-formed board . . .

You can apply any overlay direct to the core stock when you manufacture with Duraflake. The finish will be smooth in looks—satin-smooth to the touch. There is no roughness to telegraph through the finish. Duraflake provides the perfect base for your finest furniture.

Duraflake because of its ingenious formation has greater internal strength than other boards on the market. It has exceptional machining and screw holding properties.

It is easy to work and is profitable to use.



here are Duraflake's outstanding features

- Fine surface eliminates telegraphing.
- Excellent screw holding properties.
- Strong internal bond.
- Maximum dimensional stability.
- Tight core for outstanding edge and face cutting.
- Machinability.
- Superior modulus of rupture.
- Uniform density.
- 5′ x 16′ press for great latitude.
- Teco quality control.

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Albany, Oregon

WWP-3

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Address _____

City _____ Zone ____ State _____

Hardboard

BRAND NAME OR NO.	CLASSIFICATION TYPE 1 (Standard) Cl. 1 (50-75 Lb. Cu. Ft.)	Cl. 2 (50-60 Lb. Cu. Ft.)	TYPE 2 (Treated or Tempered)	SPEC. GRAV. (Density)	SURFACE S1S	S2S	NOMINAL THICKNESS (Inches)	STANDARD PANEL SIZES	MODULUS OF RUPTURE (Min/psi)	TENSILE STRENGTH (Min/psi) A	B*	WATER ABSORP. (Max. % Weight 24 Hours)	SPECIAL TEXTURE OR FINISH AVAILABLE	USES (See Code at End)
GEORGIA-PACIFIC CORP.														
Standard Hardboard	X			1.01		X	1/8	4x8	5,100			20	Plain or perforated	1, 3, 5, 8, 12, 14, 15, 17, 20
"		X		.93		X	1/4	"	4,200			15		1, 8, 12, 14
Cabinet	X			1.01		X	1/8	4x1 - 4x16	5,500			20	Pigment-sealed	2, 3, 8, 12-14, 17
Panel	X			"		X	1/4	"	"			16	"	"
"	X			"		X	"	"	"			13	"	2, 8, 12-14, 17
Premium	X			1.08		X	1/8	"	6,500			14	Sealed, natural, plain, perforated	2, 3, 5, 7, 8, 12-17, 20
Hardboard	X			"		X	3/16	"	"			12	"	"
"	X			"		X	1/4	"	6,200			9	"	2, 4, 7, 8, 12-17, 20
"	X			"		X	3/8	"	6,000			7	Sealed or natural	2, 4, 7, 12-14, 16, 17, 20
Garage Liner	X			1.01		X	1/4	4x8	5,500			13	Pigment-sealed, perf.	12
Channel Plank	X			"		X	"	"	"			"	Channel-grooved, Pgmt.-sealed	12
Random Plank	X			"		X	"	"	"			"	V-grooved, pgmt.-sealed	12
Underlayment		X		.93		X	.215	4x4, 4x5	4,200			15	Sanded back	12
Garage Panel	X			1.10		X	1/4	4x5 - 4x16	7,000			9	"	Garage door panel
Plastic Core	X			"		X	1/8, 3/16, 1/4	Up to 50x122"	7,500			14	"	Hi-Press. lam. core
LITTLE ROCK HARDBOARD, INC.														
Little Rock Board	X			1.00	X		1/8	4x8	6,000-7,000	3,000 - 4,000		12 - 16		All
MASONITE CORP.														
Presdwood	X			1.00 ave.	X		1/10 - 5/16	4x1 - 4x16	6,200 ave.	3,000 ave.		9 - 16 ave.		
Panelwood		X		.92	X		3/16, 1/4	"	5,000	2,400		17 - 18		
Presdwood			X	1.05	X		1/10 - 5/16	"	10,000	4,500		6 - 15		
"			X	"	X		1/8 - 5/16	4x1 - 4x12	"	"		"	Dyed black	
Duolux	X			1.09		X	1/8, 3/16	4x1 - 4x16	9,800	5,000		18		
"			X	1.10+		X	1/8, 3/16, 1/4	4x1 - 4x16, 5x1 - 5x16	9,500	5,500		6 - 7		
Duolux			X	1.08		X	1/8	Special	8,000	3,800		7		
Exterior Duolux				1.07		X	1/8, 1/4	4x8 - 4x16	10,000, 7,900	5,000		12		
Ridgeline			X	1.05	X		1/4, 5/16	4x1 - 4x16	8,500	4,000		7	Striated	
Ridgegroove			X	"	X		5/16	"	"	3,800		6	Grooved, striated	
Panelgroove			X	"	X		"	"	"	"		"	Grooved	
Sealdit		X		"			1/4	"	7,000	3,500		13	Emb. wood grain	
Leatherwood			X	1.10+	X		1/8	4x3, 4x16	9,500	5,500		6	Emb. leather texture	
Peg-Board	Standard and Tempered Presdwood and Tempered Duolux						1/8, 1/4	4x1 - 4x8					Perforated	
Lodena Board			X	1.25		X	1/8	4x3, 4x6, 4x12	11,700	6,100		6		
Genuine 50			X	1.40		X	1/4 - 2	"	12,500	7,700		1 (or less)		
" 80			X	1.25		X	3/8 - 1 1/4	4x3, 4x4, 4x8	6,700	"		2		
Royalcuve 100		X		.94	X		1/4	4x6, 4x8, 4x12	7,000	3,500		15	Printed walnut grain	
" 400		X			X		"	16"x96", 16"x84"	"	"			Printed cherry grain	
NU-PLY CORP.														
Bemidji-Bord Standard	X		X	1.08		X	1/10 - 3/8	4x8	5,500		150	12 - 20		1-4, 7, 8, 12-17
" Utility	X			1.04		X	1/8 - 5/8	"	4,000		100	12 - 25		1-4
" High-Bord	X			1.06		X	"	"	5,500		250	10 - 20		5-20
" Temp-Bord			X	1.09		X	1/10 - 5/8	"	9,000					1-4, 6-8, 11-18
" Tool-Bord	X		X	1.09		X	1/10 - 1/4	"						7-8, 13-15, 17
				1.04		X								
" Door-Life	X			1.04		X	1/8 - 1/4	"	4,500		125	10 - 16		6
" Undr-Layr	X			1.04		X	7/32	4x4, 4x3	3,500		100	13		
" Fenmic	X			1.06		X	1/8, 5/16	Cut-to-size	4,500		125	17		2-3, 7, 8, 15, 17
SUPERWOOD CORP.														
Standard	X			1.00	X		1/12 - 5/16	4x8 - 4x16	6,800	4,000 - 5,000		10 - 16	Perforated	1-8, 12-20
Tempered			X	1.10	X		1/10 - 5/16	"	9,500	4,000 - 5,000		6 - 12	"	
Panel Stock				.96	X		1/8, 3/16, 1/4	"	5,300	3,000 - 4,000		14 - 20		
UNITED STATES GYPSUM CO.														
1/10 Regular Duron	X			70		X	.100	4x8, 4x12, 4x16	8,500			18		
1/8 " "	X			"		X	.135	"	7,000	3,500		20		2, 3, 6, 13, 17
5/16 " "	X			62		X	.180	"	6,300	3,800		"		2, 3, 6
22-S " "		X		54		X	.225	"	4,000	2,300		"		7,13
1/4 " "	X			65		X	.240	"	6,000			14		7, 13
1/8 Temp. Duron			X	73		X	.135	"	9,000	5,000		12		2, 3, 8, 17
5/16 " "			X	65		X	.180	"	7,500	5,300		"		2, 3, 18, 19
22-S " "			X	55		X	.225	"	5,000			18		7
1/4 " "			X	67		X	.240	"	7,500			10		7
WEYERHAEUSER CO., SILVATEK DIV.														
Waytex	X			1.00	X	to order	1/12 - 5/16	4x6 - 4x16	6,500	4,000		10 - 30	Perf., flail sanded, grooved, striated, primed	
"			X	1.05	X	"	1/10 - 5/16	"	8,500	4,500		8 - 18	"	
Weylite		X		.95	X	"	1/8 - 1/4	"	4,000	2,500		15 - 25	Perf., grooved, primed	
Weybase		X		"	X	"	.215	4x4, 4x5	"	"		18		
Weylec	X			1.05	X	"	1/12 - 5/16	4x16	8,500	4,000				
Waytone	X			1.00	X	"	1/8 - 1/4	4x6 - 4x16	6,500	"		10 - 20	Prefinished, perf., V-grooved	
"		X		1.05	X	"	"	"	8,500	4,500		8-10	"	
"			X	.95	X	"	"	"	4,000	2,500		15 - 25	"	
WISCONSIN WOOD PRODUCTS, INC.														
Lionite Standard	X			1.08		X	1/10, 1/8, 3/16, 1/4, 5/16	4x1 - 4x8	7,500			20		All
" Panel		X		1.00		X	1/8, 3/16, 1/4	"	4,500			22		"
" Underlayment		X		"	X		.215	4x4, 4x5, 32"x48"	"			21		
" Tempered	X		X	1.15		X	1/10, 1/8, 3/16, 1/4, 5/16	4x1 - 4x8	9,500			15		All
" Sid. Perf.	X			1.08		X	1/8, 1/4	4x2 - 4x8						"
" Panel Perf.		X		1.00		X	"	4x4, 4x8						"
" Temp. Perf.	X		X	1.15		X	"	4x2 - 4x8						"
Ecopolite Untempered	X			1.00		X	"	"	6,000			26		"
" Untemp. Perf.	X			"		X	1/8	4x4, 4x8	"					"
" Underlayment		X		"	X		.215	"	4,500			26		
" Tempered	X		X	1.05		X	1/8, 1/4	4x2 - 4x8	8,500			16		All
" Temp. Perf.	X		X	"		X	"	4x4, 4x8						"

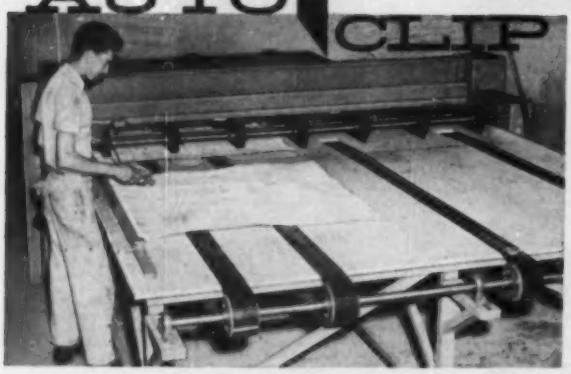
* A—Parallel to surface B—Perpendicular to surface

USE CODE: The numbers in the hardboard "Uses Column" preceding are keyed with use descriptions printed below.

1—Boxes, pallets, packaging
2—Cabinet members
3—Casegoods parts
4—Chair seats, backs
5—Crane bands
6—Doors and skins
7—Fixtures, displays, shelves
8—Juvenile furniture
9—Millwork, trim
10—Musical instruments
11—Patterns, dies, jigs
12—Prefabs, house trailers, boats
13—School equipment
14—Special indust. forms, parts
15—Sporting goods, games
16—Table and counter tops
17—Toys & novelties
18—Truck, trailer bodies
19—Uphol. fam. & beds
20—Veneer, plastic underlay

Continued

New Cardwell
AUTO CLIP



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Softwood Plywood Special Products Guide

MANUFACTURER	OVERLAID PANELS: High Density Brand	High Density Color	Medium Density Brand	Medium Density Color	Hardboard Faced (Plyron)	SURFACE PATTERNS: Texture 1-11	Relief-Grain Brushed	Others (See Code Below)
Harbor Div., Aberdeen Plywood & Veneers, Inc., Aberdeen, Wash.			Harborite Super Grade Harborite (Conc. Form) Spec. Harborite (**)	Brown Brown Brown		X	Harborware (***)	
Anacortes Veneer, Inc. Anacortes, Wash.	Armoron Armoron (Conc. Form) (*)	Nat'l., Black Grey-Green	Armorite	Wood Tone	X	X		A, B, C, F, G, L
Arcata Plywood Corp., Arcata, Calif.								F
Boise Cascade Corp., Portland, Ore.								F
Brooklinga Plywood Corp., Brooklinga, Ore.								F
Buffelen Wrkg. Co., Tacoma, Wash.						X		
Cascades Plywood Corp., Portland, Ore.			(**)		X	X		A, B, C, D, E, F, G, L
Centralia Plywood, Inc., Centralia, Wash.						X		D, E, F, G
Cloverdale Plywood Co., Cloverdale, Calif.						X		
Columbia Veneer Co., Seattle, Wash.					X	X		E, F, G, H
Coos Bay Timber Co., Coquille, Ore.								F
Coos Head Timber Co., Coos Bay, Ore.								F
Coquille Valley Lbr. Co., Milwaukee, Ore.						X		F
Diamond Lumber Co. Portland, Ore.	X		Crezon Surf. Plywood (**)	Wood Tone	X	X		A, B, C, D, E, F, G, L
Durable Fir Lbr. & Plywood Co. Menlo Park, Calif.					X	X	Etch-Ply	B, C, D, E, F
Durable Plywood Co., Menlo Park, Calif.						X		F, G
Dwyer Lbr. & Plywood Co., Portland, Ore.	X		X					F
Elma Plywood Corp., Elma, Wash.								B, F, G
Eugene Plywood Co., Eugene, Ore.							Wave-Wood	
Evans Products Co., Coos Bay, Ore.			X			X		A, B, D, E, F, G, L
Everett Plywood & Door Corp., Everett, Wash.						X	Brush-Ply	A, F, L
Forwest Plywood Co. Tacoma, Wash.	Richlite (*)	Natural	X					F
Fir-Ply, Inc., Medford, Ore.								F
Ft. Vancouver Plywood Co., Vancouver, Wash.					X	X	X	A, D, E, F, L
Georgia-Pacific Corp. Portland, Ore.	GPX Gmal. Use GPX (Conc. Form) (*)	Nat'l., Black Natural	GPX Green GPX Yellow	Lt. Green Wood Tone	X	X	Ripplewood (***)	A, B, C, D, E, F, G, L
Giustina Veneer Co., Eugene, Ore.						X		F
Grants Pass Plywood, Inc., Grants Pass, Ore.					X	X		B, D, E, F
Edward Hines Lumber Co., Westfir, Ore.					X			F
Holt Plywood Co., Junction City, Ore.								F, G
Indl. Plywood Corp., San Rafael, Calif.								D, E, F, K
International Paper Co., Long-Bell Div., Longview, Wash.	X (*)	Nat'l., Black	X	Wood Tone	X	X	X	A, B, D, E, F, G, L
Jones Veneer & Plywood Co., Eugene, Ore.						X		A, L
Klamath Hardwoods, Inc., Klamath Falls, Ore.								D, F, G, L
Lane Plywood, Inc., Eugene, Ore.						X		B, D, E, F, G, L
Martin Bros. Prod. Corp., Oakland, Ore.							Beauty-Ply	F, L
Medford Veneer & Plywood Corp. Medford, Ore.							Windrift	F
Menasha Plywood Div. of Menasha Wooden Ware Corp. North Bend, Ore.						X		D, E, F
Mt. Baker Plywood, Inc., Bellingham, Wash.							Driftwood	A, L
Noggle Plywood, Inc., Southerlin, Ore.								C, D, E, F
North Pacific Plywood, Inc., Tacoma, Wash.						X	Deco Panel	F
Northern Calif. Plywood, Inc. Crescent City, Calif.							Royal-Ply	F
Northwest Door Co., Tacoma, Wash.						X		D, E, F
Oregon Washington Plywood Co. Garibaldi, Ore.								F
Pacific Coast Co., Sonoma, Calif.					X	X		C, F, G
Pacific Plywood Co., Dillard, Ore.							(***)	F
Peninsula Plywood Corp., Pt. Angeles, Wash.						X		D, F, L
Plywood Corp. of America, Inc. Oakland, Calif.	X		X		X	X		A, B, C, D, E, F, G, L
Puget Sound Plywood, Inc., Tacoma, Wash.						X	Grainglo	C, D, E, F
Roseburg Lumber Co. Roseburg, Ore.			Crezon Surf. Plywood	Wood Tone	X	X	Brushed Wood	A, D, E, F, G
St. Paul & Tacoma Lumber Co. Tacoma, Wash.	Plyglaze Plyglaze (Conc. Form) (*)	Nat'l., Black Natural	Plyalloy	Wood Tone		X	Moire	A, B, C, D, E, F, G, L
Simpson Logging Co. Portland, Ore.	(*)	Nat'l., Black	(**)	Wood Tone	X	X	Shadowood (***)	A, B, C, F, G, L
Spellstrom Lumber Co., Eugene, Ore.						X		D, E, F, G
Southern Oregon Plywood, Grants Pass, Ore.					X	X		D, E, F, G
Standard Veneer & Timber Co. Crescent City, Calif.								F, G
Sunset Plywood Co., Los Angeles, Calif.								B, F
Three Rivers Plywood & Timber Co. Darrington, Wash.								F
Tillamook Veneer Co., Tillamook, Ore.							X	
Timber Products Co., Medford, Ore.								F
U.S. Plywood Corp. New York, N.Y.	Permaply (*)	Nat'l., Black	Duraply (**)	Coral	X	X	Sea Swirl Surfwood (***)	A, B, C, D, E, F, G, L
Valsetz Lumber Co., Valsetz, Ore.								F
Washington Plywood Co., Inc. Everett, Wash.	Everuse Everform (Conc. Form) (*)	Nat'l., Black Natural	Everlast (**)	Wood Tone		X	(***)	E, L
West Coast Plywood Co. Aberdeen, Wash.			Welchboard (**)	Wood Tone		X		
Western States Plywood, Ft. Orford, Ore.								F, G
Weyerhaeuser Co., Tacoma, Wash.						X	X (***)	A, B, D, E, F, G, L

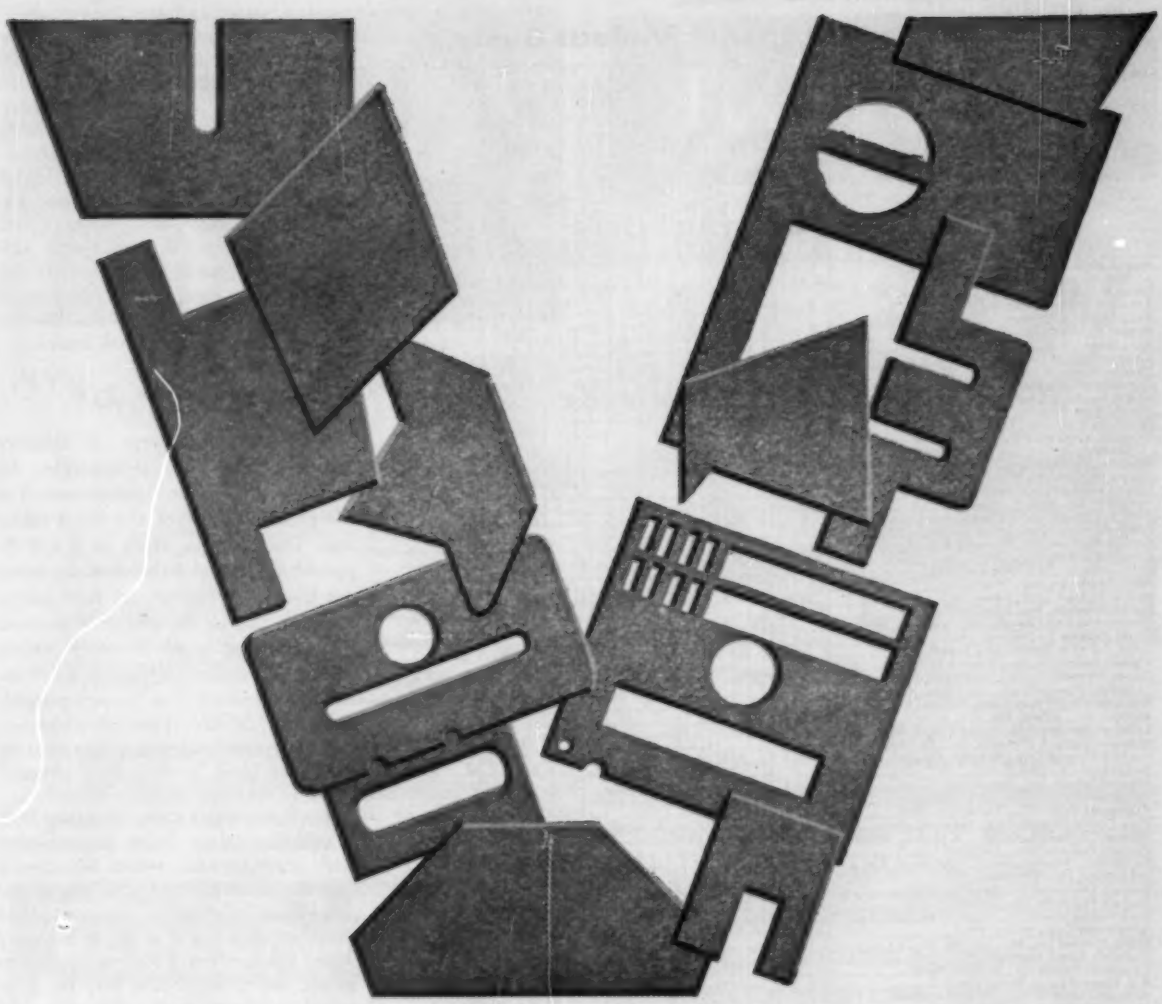
(*) Can also produce Kimpreg 8,000 overlay; (**) Manufactures special pre-cut siding; (***) Produces special textured surfaces.

CODE: The letters in the softwood plywood special products "Others" column above are keyed to descriptions below.

A - Scarfed Joint Panels
B - Cut-to-size Plywood
C - Plywood Custom Machining
D - Tongue and Grooved Plywood
E - Ship-Lap Plywood
F - 2.4.1
G - 2.4.1 and T&G 2.4.1
H - 2.4.1 and Ship-Lap 2.4.1
K - 2.4.1 and T&G 2.4.1 (long edges only)
L - Marine Exterior

(Courtesy Douglas Fir Plywood Assn.)

Continued



VERSATILE

Bowater Board opens up an entire new range of uses for hard Board. The air process by which Bowater Board is manufactured produces a smooth-on-both-sides Board, tailored more exactly to your requirements, in a wide range of thicknesses and densities, available in a light color. □ These advantages are all available in a competitively-priced hard Board backed by the research, experience and integrity of the international Bowater Organization, one of the world's leading manufacturers of forest products. □ Bowater Board Company's new air-process mill in Catawba, South Carolina, is the ideal source of hard Board east of the Mississippi. Its location, its annual capacity of 160,000,000 square feet, and its rapid shipments—via truck to nearby states—can enable you to meet production schedules and minimize inventory. □ Write or call us for full information.

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SMOOTH ON BOTH SIDES

BOWATER BOARD COMPANY • CATAWBA, S. C. • PHONE: ROCK HILL, S. C. 328-0131 • A MEMBER OF THE BOWATER ORGANIZATION

Hardwood Plywood Special Products Guide

(Courtesy Hardwood Plywood Institute)

Mill Name and Location	Aircraft Plywood	Cupboard Doors	Carved or Formed Panels	Cut-to-Size	Die-Blks & Die Boards	Doors	Door Faces	Furniture Panels	Laminated Bed Rails	Luggage Stock	Machine Plywood Parts (Shaped)	Marine Plywood Panels	Do-it-yourself Panels	Plywood Floor Squares (Prefl.)	Plywood Floor Squares (Unfin.)	School and Church Components	Seat Backs	Table & Desk Tops	Wall Panels (Architectural)	Wall Panels (Prefinished)	Wall Panels (Unfinished)	Water Skis	Other (See Code Below)
Algoma Plywood & Veneer Co., Div. U.S. Plywood Corp., Algoma, Wis.	X	X		X	X	X	X	X				X				X		X	X	X	X		A, B, C
Bacon McMillan Veneer Mfg. Co., Stockton, Ala.				X	X	X	X	X	X	X						X	X		X		X		
Bay Door Corp., Tampa, Fla.				X		X	X						X						X		X		
Berry Veneer & Plywood Co., Monticello, Fla.				X				X											X				
Bradley Plywood Corp., Savannah, Ga.						X	X													X	X		
E. L. Bruce Co. of Texas, Conroe, Tex.						X	X							X									
Calypso Plywood Co., Inc., Calypso, N.C.				X				X															
Carolina Veneer & Plywood Co., Florence, S.C.		X		X				X										X					
Commonwealth Plywood Co., Ltd., Ste. Therese, Quebec	X						X	X								X		X	X	X			
Conner Lumber & Land Co., Wausau, Wis.		X		X	X	X	X	X		X	X		X			X	X	X	X		X	X	D
Curvply Wood Products, Ltd., Orono, Quebec			X																				
Darlington Veneer Co., Inc., Darlington, S.C.																				X	X		
Dominion Ayers Wood Products Co., Ltd., Lachute, Quebec		X	X	X	X	X	X	X		X	X	X				X	X	X	X		X		
Dominion Plywoods, Ltd., Southampton, Ontario			X	X	X		X	X								X	X	X	X		X		
Eggers Plywood Co., Two Rivers, Wis.		X	X	X		X	X	X			X					X	X	X	X		X		A, C
Forawood Industries, Forawood, Miss.			X	X							X							X					
Friess Co., Inc., Orwell, Vermont		X		X			X	X															
General Plywood Corp., Louisville, Ky.		X				X	X												X	X	X		E
Georgia-Pacific Corp., Savannah, Ga.																				X	X		F
Georgia-Pacific Corp., Plymouth, N.C.				X			X	X	X	X		X						X	X				
Georgia Plywood Corp., Dublin, Ga.	X			X	X	X	X	X								X			X	X	X		
Gulf Laminates, Inc., Picayune, Miss.				X	X	X		X								X		X					G
Henry Veneer Co., Inc., Mocson, N.C.				X	X			X									X					X	H
Howell Plywood Corp., Dothan, Ala.		X	X	X		X	X	X				X				X	X	X	X		X		
Ingram Plywoods, Inc., Thomasville, N.C.				X																			
International Panel Boards, Ltd., Gatineau, Quebec					X	X		X		X	X	X	X						X	X	X		
Jersey Package Co., Millville, N.J.					X						X												
Jones Veneer & Plywood Co., Eugene, Ore.																				X	X		
Klamath Hardwoods, Inc., Klamath Falls, Ore.								X				X									X		
Larson Plywood Co., Inc., Sheboygan, Wis.		X	X	X	X			X			X	X				X	X	X				X	C
Lewisburg Plywood Corp., Lewisburg, N.C.				X				X		X						X		X					
Lee Lumber & Plywood Corp., Windsor, N.C.		X		X				X		X		X				X	X	X					K
Linwood, Inc., Gillett, Wis.		X	X	X	X			X		X						X							L
Lullabye Furniture Corp., Stevens Point, Wis.		X						X		X						X		X					
McKnight Veneer & Plywoods, Inc., West Helena, Ark.				X				X	X	X			X										
Memphis Plywood Corp., Memphis, Tenn.		X	X	X		X	X	X								X	X						
Modernwood Co., Clinton, S.C.				X			X	X	X	X		X	X	X	X			X	X	X	X		M
Mooney Plywood, Inc., Benton, Ark.	X			X	X			X								X	X	X					
Nickey Brothers, Inc., Memphis, Tenn.	X	X		X			X	X	X	X		X	X			X	X	X	X	X	X		F, O
Pascagoula Veneer Co., Pascagoula, Miss.				X								X					X	X	X		X		
Perry County Plywood Corp., Beaumont, Miss.				X	X			X			X			X	X			X	X		X		
Plywood Co., Sumter, S.C.				X		X	X	X	X					X	X					X	X		
Precast Products Corp., Elizabeth City, N.C.																					X		
Roddis Div., Weyerhaeuser Co., Marshfield, Wis.		X		X		X	X					X				X		X	X	X	X		P, A
Setter Bros., Inc., Canajoharie, N.Y.			X	X	X			X				X						X		X			
Southern Laminating Co., Memphis, Tenn.			X	X	X			X	X	X						X	X	X					H
Southern Plywoods, Inc., Gainesville, Fla.	X			X			X		X			X		X	X				X	X	X		D, A, O, B, S
Southwestern Veneer Co., Canton Plant, Ark.				X				X								X			X		X		S
Splicedwood Corp., Mellen, Wis.	X	X		X	X	X	X	X		X		X	X			X		X	X	X	X		
Stilley Plywood Co., Inc., Conway, S.C.		X	X	X				X		X	X	X									X	X	T
Technoply Corp., Jamaica, N.Y.																			X				A
Tuscaloosa Veneer Co., Meridian, Miss.		X	X	X		X	X	X	X	X							X	X					
U.S. Plywood Corp., Orangeburg, S.C.																				X	X		
Valdosta Plywoods, Inc., Valdosta, Georgia				X				X		X								X					
Virginia Plywood Corp., Danville, Va.		X		X		X	X	X		X		X				X		X	X	X	X		S, F
Weber Veneer & Plywood Co., Shawano, Wis.		X		X	X		X	X		X						X		X	X		X		M
Winnsboro Plywood Co., Winnsboro, S.C.				X			X	X	X	X	X							X			X		E
Wood-Mosaic Corp., Louisville, Ky.														X	X								

CODE: The letters in the hardwood plywood special products "Others" Column above are keyed to descriptions below.

A - Fireproof plywood pressure-treated
B - Super fire retardant plywood with aluminum foil laminate
C - Plywood beading & plywood profiles
D - Precut products (K.D.)
E - Office partitions
F - Hardwood lumber trim
G - Carved drawer fronts
H - Chair & table legs
K - Box plywood
L - Drawing boards
M - Ceiling tile squares
O - Scarfed panels
P - Doors, fire-rate hour label
R - Technical plywood
S - Brush blocks
T - Snow toboggans

Let's Take a Look

(Continued from Page 48)

Wood for underlayment, cabinets and dividers, Par-Tex for siding, fences and drainboards, and Par-Tile for block flooring in homes, schools, and churches. Other new offerings are Quik-Flor, a finished 4x4 ft. panel for flooring, and Par de Lux, a filled 4x8 ft. panel for boxes, furniture parts, display fixtures, mobile home and other applications.

Pope & Talbot, Inc. Customboard products now available are CustomBond, a 100% shavings board; CustomBlend, a combination of shavings and flakes; and CustomFlake, a 100% flakeboard. Boards are manufactured up to 54 x 144 in. and are available prefilled and/or preservative-treated, if desired. Uses include furniture, counter tops, displays, underlayment, etc.

West Virginia Pulp & Paper Co. Dureen Flakeboard, a flakeboard with a thin polyester film overlay, is this company's latest offering. Available in two grades—Dureen Print Grain (reverse printed) or Dureen Hardwood Overlay (clear overlay on hardwood veneer), the product is sold in 4x8 ft. sizes and in 1/3 in. and 3/4 in. thicknesses. Uses include cabinets, doors, table tops, paneling and furniture.

Weyerhaeuser Co., Silvatek Div. Of interest to custom fabricators and manufacturers of counters and commercial installations calling for panel lengths is Edge-Loc Versabord, a custom-joined particle board core available in 10 and 12 ft. lengths and longer. Veneered Versaflake—in a selection of birch, cherry, Philippine mahogany, red and white oak, walnut sliced hardwood species—is now being supplied to the fixture and cabinet industries. A second new flakeboard product is paint-grade Versaflake, a smooth, void-free surfaced board.

Plywood and Panels

Georgia-Pacific Corp. A double-textured, low cost, lightweight, fir plywood siding that is prime coated at the factory is one of the latest offerings. Only 3/8 in. thick in 4 x 8 ft. panels, the panel is brushed to bring out the three-dimensional hard graining. Can also be channel or V-grooved for additional shadow effect. Other thicknesses include 3/4 in. and 5/8 in. Another product is a factory-primed, resin-overlaid decorative plywood siding. Here the sand-tone prime coating is applied over a resin-fiber overlay.

Kimberly-Clark Corp. Kimpreg 800, a cellulose fiber sheet impregnated with phenolic resin which becomes a smooth, hard and durable plastic armor when applied to exterior grade plywood, is going over big in highway signs. The surfacing material comes in green, red or white and may be laminated to one or both sides of a plywood sheet. Has high resistance to weather, abrasion and chemicals.

Simpson Logging Co. New prefinished plywood paneling and matching flush doors, both protected by a tough vinyl surface, are available in five grained finishes: Oriental Pecan, Arabian Sandalwood, Temple Walnut, Sable Walnut and Vermont. Also available in three natural woods: Casual California Redwood, Cascade Hemlock and Mountain Larch. Manufactured in standard 4x8 and 4x10 sizes, 1/4 in. thick, with or without random plank V-grooves; 3/4 in. and other thicknesses available for cabinet work and special construction.

Weyerhaeuser Co., Silvatek Div. A grain-printed surface design in ash has been introduced for Ply-Veneer, a paper-overlaid veneer. Birch, walnut and cherry prints are under development. New uses for the product have been found in the manufacture of storage vaults and temporary signs, and in mobile home applications.

PLYWOOD WITH A PERMANENT WAVE

It's there to stay, thanks to our electronic High Frequency Press. We specialize in forming plywood to required specifications. Stock or special order, any size, shape or form—if it's curved plywood you need, call us.

Complete line of plywood products

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- Laminated Curved Panels
- Core Banding—any construction
- Lumber Cores for Plywood
- Edge Banding—Veneer or Plastic
- Plastic Faced Panels
- Dimension Plywood—Fancy Faced

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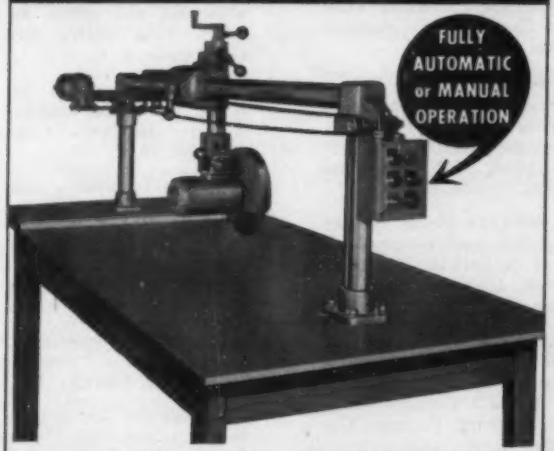
Speed up PRODUCTION...with the PARKS *Panel Saw!*



Let the versatile Parks Panel Saw put profitable new speed in your production set up. Available in cut-off capacities of from 4 ft. to 10 ft., the Parks Panel Saw has a traverse speed of 60 F.P.M.—with both cut and return fully automatic. In addition, the selector switch may be set on "Manual"—permitting a traverse cut of the saw controlled by the operator from "feed" and "reverse" buttons. What's more, the Parks Panel Saw can be quickly adjusted for bevel cuts, and can be used as a manually-fed rip saw. Available with 1 to 5 H.P. Motor and 10" to 16" saw blade. Write for descriptive literature.

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Manufacturers of Quality Woodworking Machines Since 1887

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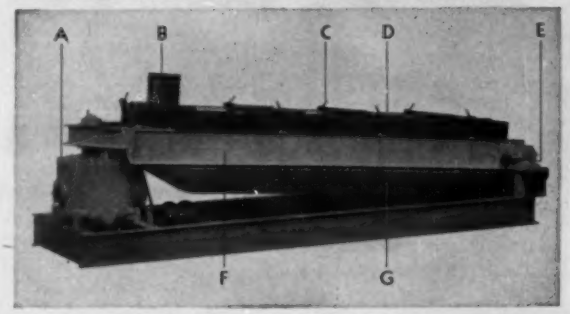
ROTEX®

SCREENERS GIVE PROFITABLE PRODUCTION!



A Quiet balanced drive
B Flexible connectors
C Quick-release clamps
D Inspection ports
E Self-aligning supports
F All metal screen box
G Heavy welded steel base

ROTEX SUCCESSFULLY SCREENS:

- Particle board flakes and core material
- Sawdust, wood flour and charcoal
- Pulpwood chips and bark

ROTEX SCREENING ACTION:

The nearly level, gyratory motion, pioneered in ROTEX, conveys materials rapidly over screen surfaces with minimum vertical vibration or hop. This stratifies the material by particle size, rapidly passing undersize particles through the mesh openings. The results are clean separations of exacting accuracy coupled with high capacity. Designed for operating convenience, ROTEX Screeners pay for themselves by the economies they effect.

ROTEX WIDE SELECTION:

To meet your requirements: 30 standard models—a line of standard Chip Screeners—many special models. Write for ROTEX Bulletin 401 and ROTEX Chip Screener Bulletin 705.

ROTEX FEATURES

- Low head room
- No screen blinding
- Fast screen changes
- Dependable service
- Dust-tite construction
- Rugged construction

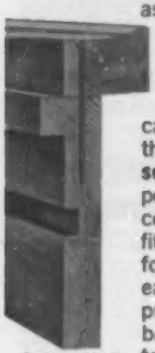
ROTEX® | **The Orville Simpson Co.**
1248 Knowlton St., Cincinnati 23, Ohio

This is automatic nailing of

Window Frames!

Hercules-9 Model Auto-Nailer For Jamb Assemblies

Here's the **Auto-Nailer®** which revolutionizes window frame production with greatly reduced costs . . . greatly improved quality. The secret lies in using assembly line practices: **Auto-Nailer** makes its own nails from a coil of wire and drives 145 per minute with incredible precision. It has a unique holding fixture which positions the jamb, blind stop and casing and clamps them together while they are being precision nailed into one **solid** unit. The result is jamb assemblies of perfect uniformity . . . easily combined into complete window frames **without** hand-fitting. Here is true **automation** economy for your window frame production. Quick, easy, accurate nailing solves production problems . . . relieves operator-tension . . . brings a new high to quality and a new low to costs. Accepted in Commercial Standards CS190-59, CS204-59, CS205-59.



Casing, blind stop and jamb are locked into one solid unit.

Casing, blind stop and jamb ready for nailing.

Nails are countersunk uniformly and there are no hammer bruises.

Clean, tight miter joints and constant reveals. Frames look as if assembled by cabinet makers.

What's your fastening problem?

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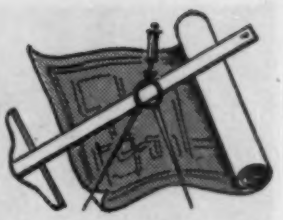
AUTO NAILER

PATENTS

and Trade Marks



Copies of these patents at 25c each and, if subsequently granted, trade marks at 10c each may be obtained by addressing: James M. Heilman, Dept. WP, 501 Fifth Ave., New York 17, N. Y.

Patents Granted Recently by U.S. Patent Office

2,941,249—Multiple opening press. H. H. Rogers, Assor. to Williams-White & Co., Moline, Ill.

2,947,331—Saw chain and tooth-carrying link. F. T. Irgens, Assor. to Outboard Marine Corp., Waukegan, Ill.

2,947,332 — Double-surface planer for wood strip material. M. Baumann, Assor. to Bauwerk A. G., St. Margrethen, Switzerland.

2,947,654—Method of manufacturing a composite board product. R. Chapman, Assor. to Wood Processes, Corvallis, Ore.

2,947,764—Method of producing, separating and recovering reaction products from bark. P. Zenczak, Assor. to Grenco, Inc., Portland, Ore.

2,948,312—Machine for preparing precisely the edges of sheet material for veneering and the like. Ivan W. Rothrock, 315 Hawthorne Ave., Eugene, Ore.

2,948,578 — Means for suspending and guiding cabinet drawers. L. E. Himelreich, Assor. to H. J. Scheirich Co., Louisville, Ky.

2,948,908 — Polishing machines for wood plates and the like. M. Schmidt, Assor. to Firma B. Raimann G.m.b-H. Freiburg, Freisgau, Germany.

2,949,143—Fastening means for panels, sheets and the like. I. Shur, Assor. to Waldes Kohinoor Inc., Long Island City, N. Y.

2,951,519 — Ram-type wood recuding apparatus. H. E. Erickson and C. J. Robinson, Assors. to Dale L. Schubert, Tacoma, Wash., and Industrial Development Co., Inc., Seattle, Wash.

Design 188,196 — Buffet. J. J. Lubberts and L. J. Mulder, Assors. Thomasville Chair Co., Thomasville, N.C.

Trade Marks Approved by the U.S. Patent Office

PFR and Butinox—for chemical composition to impregnate and preserve wood and other materials.

Grand Slam—for solid core doors. Connor Lumber & Land Co., Wausau, Wis.

Trendwood—for construction board and a finish for fiberboard. Marsh Wall Products, Inc., Dover, Ohio.

Flairwood—for kitchen cabinets. Curtis Companies, Inc., Clinton, Ia.

Vintage — for articles of household and office furniture. Kent Coffey Mfg. Co., Lenoir, N. C.

Room-Ware — for K.D. furniture and wood shelving. Kason Hardware Corp., Brooklyn, N. Y.

Super Lift—for window units. Cincinnati Sash & Door Co., Cincinnati, Ohio.

Ilco—for lumber and lumber products. Insular Lumber Co., Philadelphia, Pa.

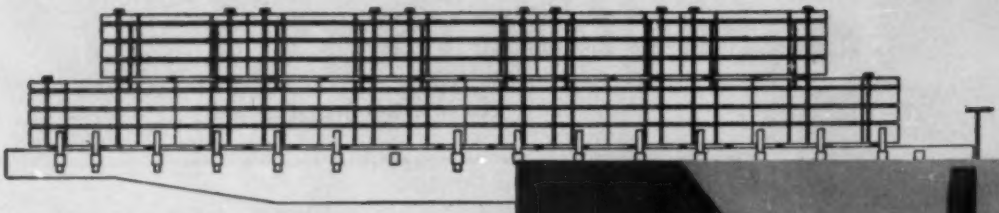
Masterbord—for pressed fiberboard. Aetna Plywood & Veneer Co., Chicago, Ill.

Basicanna—for living room, bedroom and dining room furniture. Basic-Witz Furniture Industries, Inc., Waynesboro, Va.

Mr. Chair—for articles of furniture, namely chairs. B. G. Mesberg Corp., New York, N. Y.

Hutton—for wooden flooring. Hutton & Bourbonnais Co., Hickory, N. C.

A message from Signode for lumber mills...and receivers



Drawing based on Section 5, Figure 6, AAR open top car loading rules, 1960

Strap... wrap... ship clean and dry

Let Signode help you make the most of the many advantages of this AAR approved lumber load for flat cars

At the mill: The availability of flat cars is much better than that of wide-door box cars.

At the mill: Loading is fast and easy. No special lift equipment needed.

At the mill: Stub stake load permits use of protective wrapping, and practically eliminates tearing of wrap.

As received: Strapped and wrapped lumber is clean and dry.

As received: Unloading can begin at once—is simple and fast. Receiver can use his mechanical handling equipment to greatest advantage... reduce unloading and storage cost.

As received: Wrapped lumber packages are weather protected for year-around outdoor storage...are easy and fast to tally...can often be forwarded to consumer unaltered. Undetected pilferage is eliminated.

Meanwhile, back at the mill . . . Your Signode man can be helping you in big and little ways, saving you money with the latest developments in centralized strapping and in time-saving ways to strap, handle, store and load lumber, and veneer and plywood too. Let us put him in touch with you now. In the meantime, write for free copies of one or more of these informative Forest Products Bulletins:

Flooring • Flush Doors • Logging • Millwork • Particleboard
Lumber Yard Handling Methods • Plywood • Sawmill Applications • Studs
Tree Seedlings • Veneer • Handling Methods for Packaged Lumber

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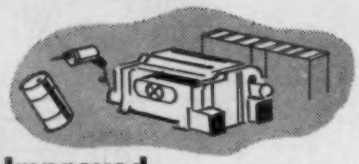
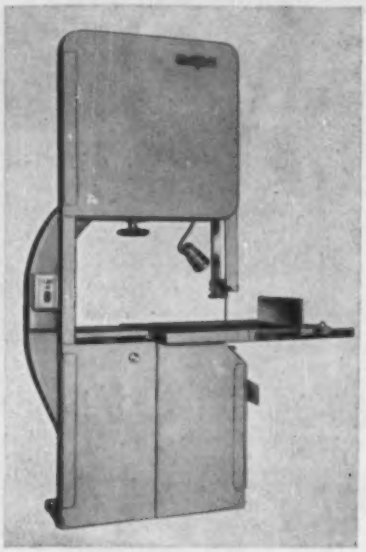
PRODUCTS



New and Improved



36 in. Bandsaw

MFR.: Northfield Foundry & Machine Co., Dept. WP, Northfield, Minn.

DESCRIPTION: DeLuxe 36 in. bandsaw added to line.

FEATURES: Has 36 x 2 1/2 in. steel, demountable, reinforced tire disc wheels; 37 x 37 in. table; 24 in. capacity under guide; fully automatic safety brake on upper wheel with automatic tension control; tension indicator; blade tracking guide; and lower wheel brake. Available in direct drive with 5, 7 1/2 and 10 h.p. motors, as well as V-belt-driven single, variable or multiple speed drives adaptable to any cutting operation. Accessories include hand and power resawing attachments, large rolling tables, others. Electronically balanced for vibrationless performance.

Circle Item P1 in Coupon on Page 163.

Drawer Slide

MFR.: Amerock Corp., Dept. WP, 4000 Auburn, Rockford, Ill.

DESCRIPTION: Ball bearing drawer slide designed for quick installation.

FEATURES: Is side mounting with only 1/2 in. clearance required on each side. Cabinet tracks mount on bottom rail, flush with drawer opening. Self-aligning tabs on drawer track eliminate measuring and leveling. Slotted screw holes further simplify adjustment. Patented projection on drawer tracks simplifies insertion and removal of drawer from cabinet, with drawer needing only to be tipped 6 deg. for removal. According to company, drawer stays closed and there is no rebound. Available in 18, 20, 22, 24, and 28 in. lengths, slide has slotted holes at 1/2 in. intervals making it easy to cut tracks for in-between lengths. Supports loads up to 75 lbs.

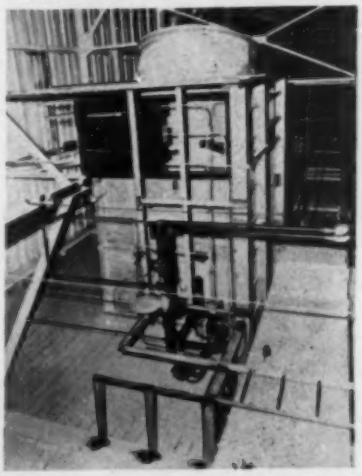
Circle Item P2 in Coupon on Page 163.

Air Make-Up Units

MFR.: J. O. Ross Engineering, Div. Midland-Ross Corp., Dept. WP, 730 Third Ave., New York 16, N. Y.

DESCRIPTION: Line of seven packaged air-make-up units for use wherever outside air must be brought inside plant to replace air exhausted in processing operations.

FEATURES: Units are available for supplying 20, 30, 40, 50, 60, 70 and 80,000



c.f.m. (60,000 c.f.m. unit illustrated). Each unit comprises galvanized sheet-metal enclosure approximately 7 ft. high, 7 ft. wide and 8 ft. long. One end fits outside wall opening and is equipped with intake louvers, bird screens and shut-down dampers. The other end is equipped with fan which draws air from outside and directs it into plant. Rectan-

gular gas burner inside enclosure heats incoming winter air to 80 deg. F. prior to distribution into plant. Enclosure has 3 in. thick insulation. Burner operates on natural or manufactured gas, with supply automatically regulated to heat incoming air to desired temperature. Units also available for steam heating.

Circle Item P3 in Coupon on Page 163.

2,000 lb. Lift Truck

MFR.: Hyster Co., Dept. WP, P. O. Box 847, Danville, Ill.

DESCRIPTION: New 2,000 lb. lift truck, the SpaceSaver 20, added to line.

FEATURES: Has narrow width, easy handling and short turning radius for high maneuverability. Available with powershift transmission and company's Monotrol control system (combining forward-reverse and throttle control in one right-foot pedal), or with manually operated, two-speed transmission. Incorporates full-flow hydraulic oil filter and a dry-type engine air filter which remove impurities. Engine compartment arranged so that all components requiring regular service are within easy reach.

Circle Item P4 in Coupon on Page 163.

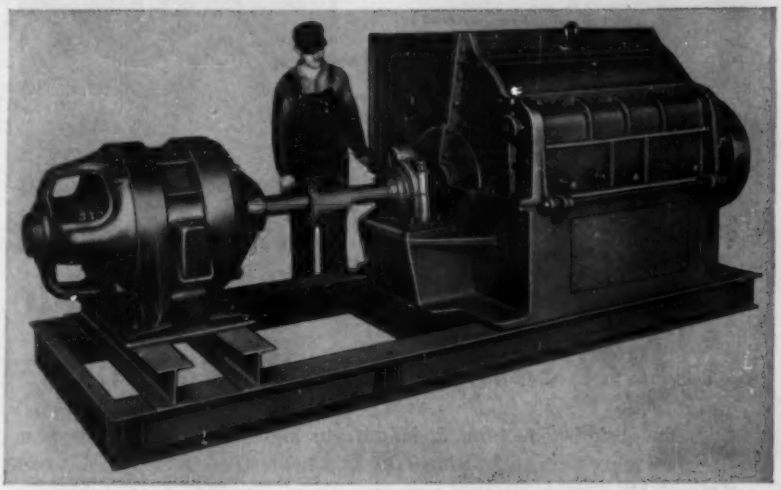
Improved Edger Tailer

MFR.: Wheland Co., Dept. WP, Signal Mountain Rd., Chattanooga, Tenn.

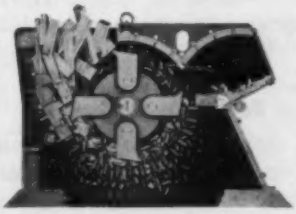
DESCRIPTION: Improved automatic edger tailer for use with edgers equipped with two simultaneously shifting saws.

FEATURES: Automatic belt tailer is arranged so that board being edged is centered on belt. Edging strips fall on right angle conveyor chains passing beneath

Convert Wood Scrap to better fuel at Savings Up To 75%!



WILLIAMS "No-Nife" WOOD HOGS pay back their cost fast!



Above cross section of "No-Nife" Hog shows how fast-revolving chisel-edge hammers reduce wood by impact to a specified size to pass through grate at bottom of hog.

If you burn your wood scrap for heat and power, or simply to dispose of it, a Williams Hog will produce sensational savings in two ways:

❶ Reducing scrap to chips makes it completely burnable, efficiently extracts every BTU, minimizes smoke, soot and residue. Burning jumbled lengths, widths and shapes restricts air flow, smothers the fire, wastes most of wood's heat value.

❷ In chip form, one man with a shovel can fire as much fuel tonnage as three men handling individual awkward strips and pieces of scrap—save two-thirds the labor cost.

Completely Automatic Systems to hog and convey wood waste to boiler without manual handling—or to grind, separate and package saleable wood particles, sawdust or flour—has resulted in phenomenal economies and profits for many firms.

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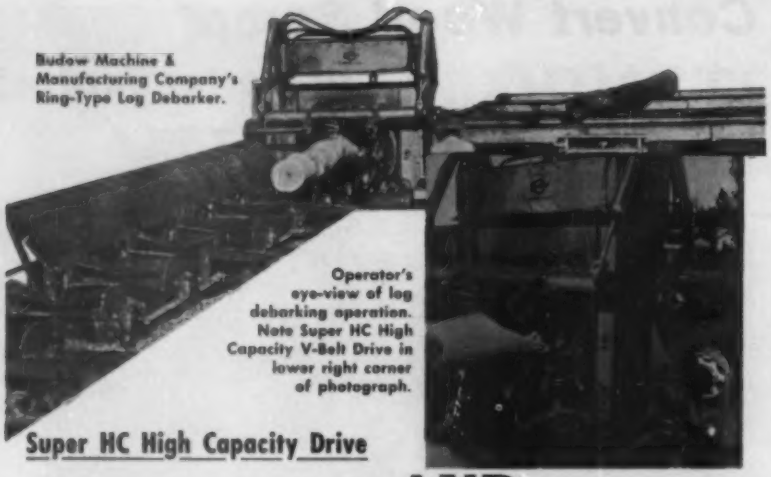


Budow Machine & Manufacturing Company's Ring-Type Log Debarker.

Operator's eye-view of log debarking operation. Note Super HC High Capacity V-Belt Drive in lower right corner of photograph.

Super HC High Capacity Drive

proved practical AND profitable ...$227 saved on each machine!

The Budow Machine & Manufacturing Company, Birmingham, Ala., had a problem on its Ring-Type Log Debarker: conventional drives were so big, they interfered with the operator's view of the debarking process.

In the words of the company's vice president, T. P. Bush, Jr., "Our most important single problem was eliminating the obstruction to the operator's line of vision."

Redesign of the drive, using Gates Super HC High Capacity V-Belts and Sheaves, not only solved the problem, but produced unexpected 'dividends' as well.

"This solution proved to be not only practical but profitable too," says Mr. Bush — and savings of $227 on each debarker drive certainly back up that assertion.

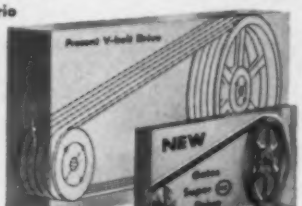
Here's how the savings were realized: First, each Super HC High Capacity Drive cost $34.55 less than conventional drive; second, Super HC made possible the use of a smaller, higher-rpm motor costing $193 less than the motor previously used.

Super HC Stocks and Technical Assistance Readily Available:

You can realize savings on drives that are part of your own equipment — either equipment you own and operate in your mill or shop, or equipment you manufacture for sale. Gates Offices and Gates Distributors are located in all major industrial centers. Ask for booklet: *The Modern Way to Design Multiple V-Belt Drives.*

The Gates Rubber Company, Denver, Colorado TPA345
Gates Rubber of Canada Ltd., Brantford, Ontario

Gates
World's Largest Maker of V-Belts



Gates Super HC V-Belt Drives same hp capacity in smaller "package"

tailer. Standard clear span between tailer supports permit 20 ft. long strips to pass. Tailer may be driven from edger feed rolls. Simple belt take-up is provided. All shafts mounted on anti-friction bearings.

Circle Item P5 in Coupon on Page 163.

Improved Spray Gun

MFR.: Gray Co., Inc., Dept. WP, 60 11th St., N. W., Minneapolis, Minn.

DESCRIPTION: Airless spray "Golden" gun now improved to permit controlled application of wider range of viscosities and mil thicknesses.

FEATURES: Redesigned for shorter overall length with center balanced weight and swivel at base of handle to allow greater maneuverability in coating flat or intricately shaped surfaced; also lighter trigger pull and quick pop-action shutoff for better film control. Second improvement is addition of "FF" fine finish tip which provides a lapping pattern for application in even-mil thickness.

Circle Item P6 in Coupon on Page 163.

Portable Nailer

MFR.: United Shoe Machinery Corp., Dept. WP, 140 Federal St., Boston 7, Mass.

DESCRIPTION: Portable, single-blow automatic nailing gun added to Powasert line.

FEATURES: Drives 120 nails per minute in sizes up to 2 1/2 in. long with heads up to 3/8 in. in diameter. Can be used in conjunction with older models of power feeder-separator unit, or with automatic hopper. Nails are dumped from bulk con-

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tainers directly into hopper, which automatically aligns and feeds them, point first and one at a time, through flexible, transparent hose to gun. Operator, depressing safety release lever, needs only press nose of gun firmly against work surface to insert nail. Gun cannot fire unless it is pressed against solid surface. Also, cannot jam, double-feed or permit nail to pass head first. Power is adjustable for flush or countersunk driving without marring work surface. Weighs 9 lbs., operates on 65 lbs. p.s.i. air, consumes 20 c.f.m. at top speed, and covers 12 ft. radius area from wheel-mounted hopper. Drives nails vertically, horizontally, upside down or at any angle. Requires only minimum skill.

Circle Item P7 in Coupon on Page 163.

Portable Router

MFR.: Porter-Cable Machine Co., Dept. WP, Marcellus St., Syracuse 1, N. Y.
DESCRIPTION: Model No. 155 router with improved visibility and one-hand control.
FEATURES: Provides 60% more visibility than previous designs, with modernistic housing tapering toward cutter and wide open base which permits operator to constantly keep work in line of sight. Has auxiliary handle to assist in making intricate cuts. A special shaft lock pin which locks armature shaft permits quick, safe bit changes. Because of flat-top design, bit changing can also be easily accomplished when router is in upside-down position. The 23,000 r.p.m. motor is capable of powering the following four attachments—power planer, finishing sander, shaper table and scroll saw. As power planer, tool can take 3/64 in. bite off a 2 x 4 at each pass. The finishing sander has speed of 5,000 orbits p.m. for sanding with, across and against grain. As shaper table, tool takes off up to 3/32 in. for jointing, 3/4 in. for shaping. As scroll saw, the high-speed rotary action of a special spiral cutter makes tool ideal for contour cutting and for cuts into panels without starting hole.

Circle Item P8 in Coupon on Page 163.

Radial Arm Saw

MFR.: Wadkin, Ltd., Dept. WP, 50 Howard St. New York 13, N. Y.
DESCRIPTION: Bursgreen Type B.R.A. radial arm saw with pneumatically operated cutting stroke.
FEATURES: Machine is fitted with a double-acting air cylinder which controls reciprocating motion of the saw head,

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TOGGLE CLAMPS

Because when the work is held by De-Sta-Co clamps—as those shown holding a water ski during routing operations—you can be sure it will stay secure until the job is done.

Because, whatever the size or shape to be held, De-Sta-Co has a toggle clamp in stock to fit the job . . . or De-Sta-Co engineers will tell you how easily one may be adapted.

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OSCILLATING OR NON-OSCILLATING
Model H-6 is the oscillating sander with Models H-6A the non-oscillating unit. Both are very reasonably priced.

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and speed of cutting head is variable by simple adjustment of a needle-type valve through range from 5 to 50 f.p.m. Cutting cycle is activated by depressing foot pedal. Length of stroke is variable by means of return valve built into machine. Is entirely self-contained with compressor built into base. If desired, air operation can be disconnected and machine operated manually. Double machine, consisting of two units, is available for double end cross-cutting either straight, angular or compound angular with capacity from 6 to 78 in. The two units are mounted on slides so that they can be turned to any required position by means of handwheel.

Circle Item P9 in Coupon on Page 163.

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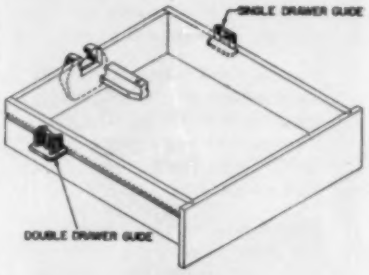

Drawer Guiding System

MFR.: Ronthor Reiss Corp., Industrial Products Div., Dept. WP, 111 Fourth Ave., New York 3, New York.

DESCRIPTION: Drawer guiding system for suspending drawers from table tops or shelves.

FEATURES: System operates on three-point suspension principle with self-lubricating back bearing installed at rear of drawer to ride smoothly on wood or metal guide screwed to table top. Side guides also screw to table top and smooth guiding accomplished by simple groove on drawer side. Automatically centers and controls tipping. Requires no frames or aprons. Available in both single (R-22-9) and double (R-22-11) units in beige colored plastic.

Circle Item P10 in Coupon on Page 163.

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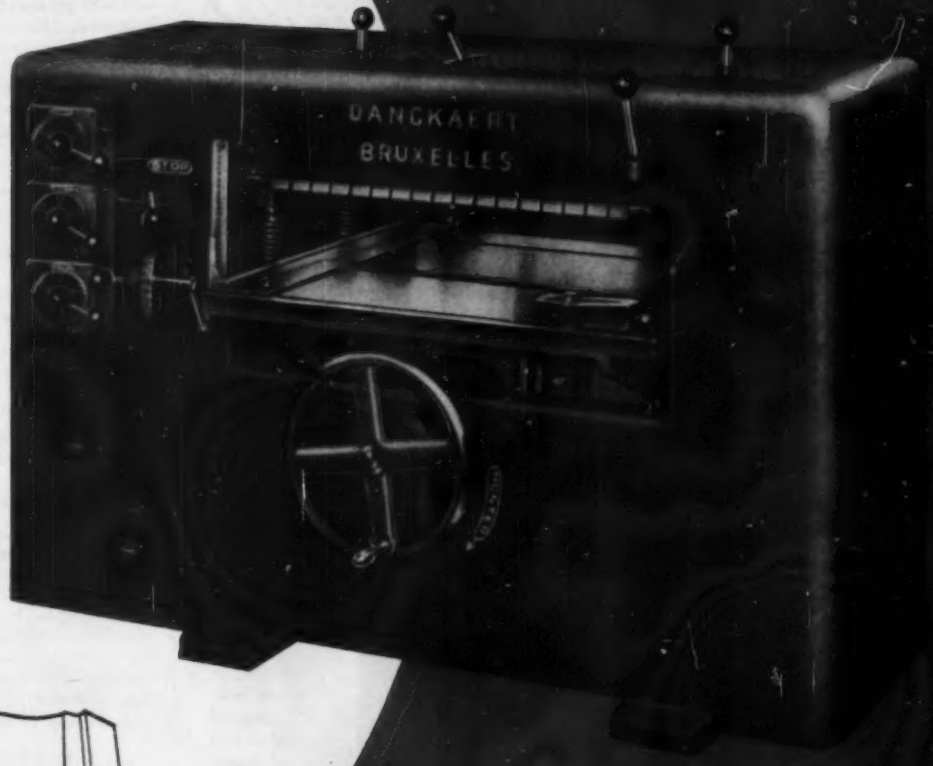
THREE-CUTTER PLANER AND MOULDER

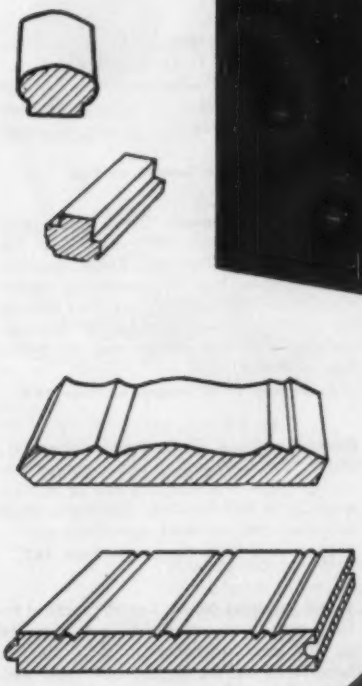
Model **ZODYL** : 15¾ x 7"

Model **ZOEBD** : 27½ x 7"

R.P.M. on Horizontal & Vertical Heads : 5000

Feed Speeds : 16' to 40' or 32' to 80'





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LITERATURE

Catalogs Bulletins • Brochures

Woodworking Knives. Charles G. G. Schmidt & Co., Inc., Dept. WP, 403-405 Broome St., New York 13, N. Y. Folder describes and illustrates line of carbide tipped and high speed steel knives and cutters for moulders, tenoners, automatic shapers, radial arm saws and special woodworking machines.

Circle Item L1 in Coupon on Page 163.

Dielectric Heating. Girdler Process Equipment Div., Chemetron Corp., Dept. WP, 334 E. Broadway, Louisville 1, Ky. Bulletin describes use of Thermex high-frequency generators to speed woodworking operations by dielectric heating. Gives specifications and reviews applications in assembly gluing, edge bonding, curved plywood molding, fiberboard manufacturing and conveyorized lumber drying.

Circle Item L2 in Coupon on Page 163.

Drying Speed Recorder. Moore Dry Kiln Co., Dept. WP, P. O. Box 4248, Jacksonville 1, Fla. Folder describes Moore Recording Tachometer, a measuring unit which indicates and records drying speed of material going through drying operations.

Circle Item L3 in Coupon on Page 163.

Fork Lift Trucks. Taylor Machine Works, Industrial Div., Dept. WP, Louisville, Miss. Folder describes Yardster line of heavy-duty fork lift trucks for varied handling operations. Includes model specification chart.

Circle Item L4 in Coupon on Page 163.

Finishing Systems, Dryers, Ovens. J. O. Ross Engineering, Div. Midland-Ross Corp., Dept. WP, 730 Third Ave., New York 17, N. Y. Bulletin S-5 gives details on ovens, dryers and complete finishing system engineering services available.

Circle Item L5 in Coupon on Page 163.

Lumber Drying System. Fan Air Systems, Inc., Dept. WP, P. O. Box 2303, Memphis 2, Tenn. Folder presents Fan-Air lumber drying system said to provide fast, uniform and controlled drying of green lumber.

Circle Item L6 in Coupon on Page 163.

Processing Equipment. Edw. Renneburg & Sons Co., Dept. WP, Baltimore 24, Md. Bulletins C560 and D959 describe and illustrate line of processing equipment including rotary dryers, dust collecting and pneumatic handling systems, cookers, digesters, mixers and air pollution systems.

Circle Item L7 in Coupon on Page 163.

Dimension Stock. D. L. Fair Lumber Co., Dept. WP, Louisville, Miss. Folder describes plant facilities and line of frames, wood parts and furniture dimension stock manufactured to exact specifications.

Circle Item L8 in Coupon on Page 163.

Wood Finishing Ideas. Latest practical information on wood finishing is rounded up for easy reference in new 36-page booklet, "Progress Report on Wood Finishing." Includes 44 new and improved finishing products, 19 case histories on new ideas in practice, classified Buyers' Guide to wood finishing products listing 150 manufacturers, help in selecting the right finishing method, other useful and timely subjects. Available at $1.50 a copy or at quantity discounts from Wood & Wood Products, 59 E. Monroe St., Chicago 3, Ill.

★ Exceeds requirements of specification MMM-A-188 for water-resistant resin adhesive.

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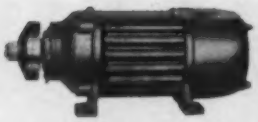
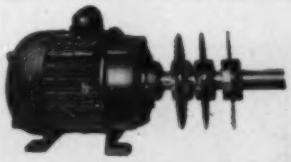


TYPE L ARBOR 1–30 H.P.
Flatted top or side for maximum cut.



TYPE G ARBOR 1–100 H.P.
Vertical or horizontal application.

TYPE K F ARBOR 1–15 H.P.
Ventilated.

TYPE U ARBOR ½–10 H.P.
For vertical application.

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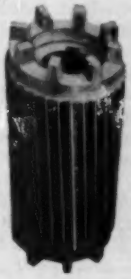

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With precision base and cutter head mounted.

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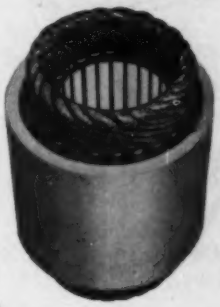
gives extra years of service



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INDUSTRY NEWS

Midwest Meeting Features "Million Dollar" Panel

AN OPEN FORUM featuring a "million dollar" panel of experts that spend an entire afternoon answering a variety of questions from the floor, and a session on wood marketing problems were twin features of the annual meeting of the Midwest Section, Forest Products Research Society, held October 27-28 at the U.S. Forest Products Laboratory, Madison, Wis.

The meeting was built around the joint themes: "Know Your Forest Products Laboratory" and "Marketing Today." It featured an informal talk by R. H. Berry of Burney, Calif., F.P.R.S. national president, and presentations of plaques marking the laboratory's 50th anniversary by Berry, for the F.P.R.S., and Ralph Simone of J. J. Fitzpatrick Lumber Co., Madison, for the Midwest and Wisconsin-Michigan Wood Seasoning Assns.

The panel session was moderated by Alan Freas, the Lab's assistant director, acting in the absence of Dr. E. G. Locke, director. Each of the eight U.S.F.P.L. division chiefs (or their representatives) explained the scope of his team's research activities, and the lively forum covered a broad range of subjects including high-frequency drying and other

"MILLION DOLLAR" PANEL of experts at recent F.P.R.S. Midwest Section meeting at U.S.F.P. Laboratory in Madison, each member representing one of lab's divisions, are, 1. to r.: D. G. Coleman, publications and information; C. L. Vaughan, timber growth and utilization; J. S. Saeman, wood chemistry; H. O. Fleischer, timber processing; Alan Freas, assistant director and moderator; J. S. Liska, physics and engineering; R. M. Lindgren, wood preservation; Warren Chilson, pulp and paper; and Keith Kellicutt, packaging research

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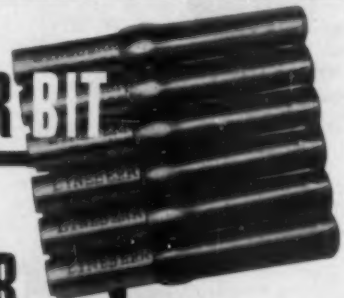

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A NATIONWIDE ORGANIZATION

wood seasoning topics, wood stabilization, composition board, components, and others.

Members of the marketing panel were John Reno, Pacific Lumber Co.; R. D. Behm, Biddle Advertising Co.; Paul McCormack, National Starch & Chemical Corp., and Fred Heiss, Rockote Paint Co.

Officers and trustees of the Midwest Section were elected as follows: Chairman, Willard Gullicksen, Churchill Cabinet Co., Chicago; vice-chairman, Roy Newstedt, Wurlitzer Co., DeKalb, Ill.; treasurer, C. Walter Noble, Decar Plastic Corp., Chicago; secretary, Kenneth E. Kimball, U.S.F.P.L., Madison; trustees (2 years)—Forrest Beil, Caradco, Inc., Dubuque, Iowa; Nels Glesne, Casswood Industries, Inc., Beardstown, Ill., and J. F. Koellisch, Wood & Wood Products, Chicago (re-elected).

Ken Kimball staged the meeting as general chairman with James C. Elf, National Starch & Chemical Corp., and Donald Lubeck, Hammond Organ Co., assisting.

New Hardboard Officers

New officers of the American Hardboard Assn. elected at the group's recent ninth annual meeting in Chicago are: president, Walter Walling, Georgia-Pacific Corp., Portland, Ore.; vice-president, Edward Schultz, Abitibi Corp., Detroit, Mich.; secretary, John Robinson, Bowater Board Co., Catawba, S. C.; and treasurer, Paul Shoemaker, Masonite Corp., Chicago. The group also welcomed two new members—Bowater Board Co. and Nu-Ply Corp., Bemidji, Minn. F. Russell Eggers, president of Nu-Ply, was added to the board of directors.

N.L.M.A. Elects Hood

A. Bristow Hood, vice-president and general manager, Ralph L. Smith Lumber Co., Anderson, Calif., was elected presi-

PLAQUES commemorating Laboratory's 50 years of leadership are presented to Assistant Director Alan Freas by (top) R. H. Berry, president, F.P.R.S., and (below) Ralph Simons for Midwest and Wisconsin-Michigan Wood Seasoning Assns.

Maurice Heyman

President, Reece Chairs, Inc.
Manufacturers and Creators of Promotional Living Room Furniture

"Our association with Textile Banking Company has been one of the most pleasant experiences of our business life. The interest that your staff takes in us and our customers is most appreciated and we find that your flexible attitude towards granting credit has permitted us to extend into fields which formerly were of no interest to us. We are thoroughly pleased with your entire program."

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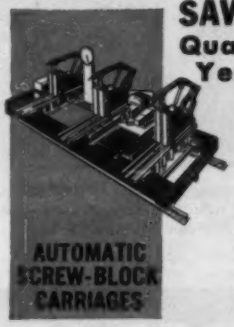

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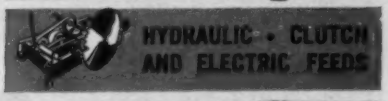

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A. BRISTOW HOOD, newly elected president of National Lumber Mfrs. Assn., is congratulated by his predecessor, Thomas J. McHugh, new chairman of the board. From left are Robert M. Ingram, retiring board chairman; Hood, McHugh and Eliot H. Jenkins, chairman, N.W.P.C.

dent of the National Lumber Mfrs. Assn. to climax the group's recent annual meeting in Washington, D. C. He succeeds Thomas J. McHugh, chairman of the board, Atlantic Lumber Co., Boston, who was elected chairman of the board. Arthur Temple, president, Southern Pine Lumber Co., Diboll, Tex., was elected first vice-president. Elected to the chairmanship of the National Wood Promotion Committee was Eliot H. Jenkins, president, West Coast Lumbermen's Assn., who succeeds Hood in the post.

Fifty-two directors, and 52 alternate directors, representing the association's 16 regional associations, were elected to the board.

Luther O. Griffith, managing partner of the Griffith Lumber Co., Huntington, W. Va., was added to the list of honorary directors for life.

Officers elected by the National Wood Council were: Chairman, Ward Mayer, Timber Structures, Inc., Portland, Ore.; vice-chairman, George M. Curtis, Curtis Companies, Clinton, Iowa, and secretary, Glen Simon, Washington, D. C.

Pacific Logging Congress

The 51st Pacific Logging Congress elected Gene Pickett, Cal-Pacific Redwood Corp., Arcata, Calif., as 1961 president at its recent annual meeting in Vancouver, British Columbia. Pickett succeeds William McMahan, B.C. Forest Products, Vancouver. Named vice-president was Jack Morgan, J. I. Morgan, Inc., New Meadows, Idaho. Robert F. Dwyer, Dwyer Lumber & Plywood Co., Portland, Ore., was re-elected treasurer. The approximately 1,400 delegates who attended the three-day meeting also named a slate of 58 directors from logging operations in the Pacific area to serve one, two and three-year terms.

Hardwood Plywood Meeting

Over 90 hardwood producers and guests attended the recent 19th annual fall meeting of the Hardwood Plywood Institute in Atlanta, Ga. Tinsley Rucker, president, Dixon-Powdermaker Furniture Co., and

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Ekstrom, Carlson No. 434 Sliding Spindle Routers can be quickly converted into Floating Spindle Routers through an inexpensive assembly that is easily attached or removed.

This makes possible simple set-ups on the routing machine for veining, shaping, grooving and other operations on serpentine and contour shaped wood parts. These are operations usually done on carving machines and buck shapers.

The assembly consists of a spindle bracket, guide holder and guide that is attached to the machine spindle. Counteracting springs, pins, studs, and hooks are placed in the rear column.

This new Floating Spindle Assembly has been tested and tried—it is practical and time saving. Ekstrom, Carlson No. 434 Routers can be equipped with the assembly at the factory. Also available in kit form to attach to No. 434 Routers now in use—a simple and easy operation.

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ROBERT HOE (left) Hoe Corp., Poughkeepsie, N. Y., hands gavel to incoming president R. H. Kell, Hartmann-Sanders Co., Chicago, at Architectural Woodwork Institute's recent eighth annual convention in Washington, D. C.

PANEL ON CORE STOCK at recent Hardwood Plywood Institute meeting featured, l. to r.: D. H. Gott, Weyerhaeuser Co., Marshfield, Wis.; S. M. Nickey, Nickey Bros., Inc., Memphis; E. Howard Gatewood, Fine Hardwoods Assn.; and Carl Wheeler, Georgia-Pacific Corp., Savannah, Ga.

newly elected president of the National Association of Furniture Mfrs., was guest speaker at one of the meeting's luncheons. Another featured speaker was E. Sigurd Johnson, professor of Furniture Manufacturing, North Carolina State College, who described plywood production around the world including his observations of the Japanese hardwood plywood industry made during a trip last summer.

E. Howard Gatewood, executive vice-president, Fine Hardwoods Assn., discussed the new F.H.A. sponsored Finishield process assisted by H. I. Watson, Aluminum Company of America. S. M. Nickey, Nickey Bros., Inc., Memphis,

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led a panel discussion on core stock, and D. H. Gott, Weyerhaeuser Co., Marshfield, Wis., described the activities of his company in the field of fire-retardent plywood.

The group's 1961 spring meeting will be held March 9-10 at the Shoreham Hotel, Washington, D. C.

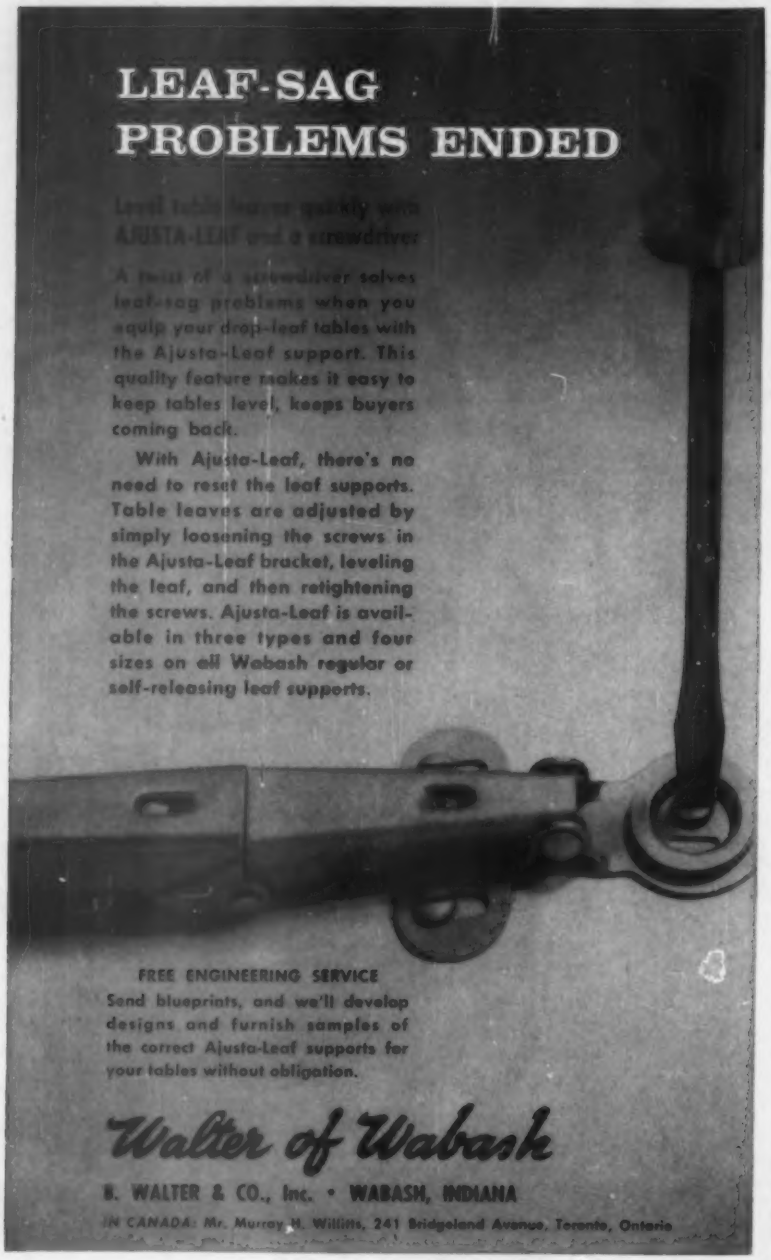
Wood Turners Meeting

The annual meeting of the Wood-Turners Service Bureau will be held January 19-20 at the Statler-Hilton Hotel, Boston, Mass. Program will include election of officers and timely discussions on key industry problems. Further details may be obtained from the bureau at Statler Office Bldg., Boston 16.

Foresters Meet

More than 1,000 foresters attended the recent 60th annual meeting of the Society of American Foresters in Washington, D. C. Following the theme, "Forestry's Expanding Horizons," 60 speakers delivered papers on ten separate technical forestry subjects covering all aspects of the present state of the profession. Major emphasis centered on the advance in improved forest management through application of modern scientific techniques. The importance of research was also stressed.

The society's president, Charles A. Connaughton, regional forester for the U. S. Forest Service, in San Francisco, pointed out the "meritorious services which forestry and profesional foresters are rendering to the stability and strength of the nation." Dr. Richard E. McArdle, chief U. S. Forest Service, gave the keynote address, recounting the highlights of forestry since the society was founded in 1900. The meeting was under the direction of general chairman, Arthur W. Greeley, and arrangements co-chairman, H. R. Josephson and Harry W. Camp.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NOTES ABOUT SUPPLIERS

Macdonald Associates, Inc., Corvallis, Ore., industrial consultants and engineers, have opened a Washington, D. C., office at 1343 H St., N. W. The new facilities will serve East Coast and international clients. Robert W. Macdonald has been appointed Washington manager. Macdonald also serves as director of Middle East Research Associates, an economic and advisory group specializing in the Middle East and North Africa.

Spotnails, Inc., Evanston, Ill., announces the opening of an eastern plant at 33 Terminal Ave., Clark, N. J. The 14,000 sq. ft. plant will provide manufacturing facilities and sales and service center for the entire eastern region.

Forest Products Consultants, Inc., consulting engineers, have opened offices in Portland, Ore. Organization of the firm represents the transfer to the new location of all consulting engineering operations formerly carried out at Medford Machinery Co., Medford, Ore. Charles A. Herstrom has been named general manager. The firm will offer engineering services for plywood, veneer and hardboard plants, sawmills, furniture factories and other types of industrial wood operations.

Georgia-Pacific Pine Mills Co., Inc., a wholly owned subsidiary of **Georgia-Pacific Corp.,** Portland, Ore., has purchased the **Pilot Rock Lumber Co.,** Pilot Rock, Ore. Included in the purchase are approximately 100,000 acres of timber, largely Ponderosa pine, located in eastern Oregon. In addition, properties include a modern lumber plant and planing mill, dry kilns and related logging and mill manufacturing equipment with an annual production of approximately 50 million bd. ft. Purchase price was reported to be $11½ million.

Weyerhaeuser Co., Tacoma, Wash., has purchased **Lebanite Products Co.,** Los Angeles, a division of **Cascades Plywood Corp.** Transaction includes a 30,000 sq. ft. building and equipment for the fabrication of hardboard, particle board and plywood panel products. The company has also announced that its new facilities in Snoqualmie Falls, Wash., for the production of end-glued lumber have been put in operation. Facilities consist of a newly constructed 10,000 sq. ft. plant. In addition, George H. Weyerhaeuser has reported that the plywood facilities of **Willamette Sheathing Co.** have been con-

solidated with those of the company's lumber and plywood division at Arcata, Calif. The Willamette plant was closed November 1 and all machinery moved about a mile away to the plywood plant which Weyerhaeuser acquired from **Roddis Plywood Corp.** earlier this year.

PERSONNEL CHANGES

Charles E. Crawford, former plant manager, has been named general manager, Gray Products Co., Inc., Waverly, Va. **Elmon T. Gray,** president of the company, also announced the appointment of **Richard C. Lent** as sales engineer in the territory covering Ohio, western Pennsylvania and Detroit, Mich.

Dale L. Gaeth has been named vice-president-manager, Rilco Div., Weyerhaeuser Co., according to **George H. Weyerhaeuser,** vice-president of the company's lumber, plywood and timberland group. Gaeth replaces **J. P. Weyerhaeuser III,** who recently assumed management of the company's new Roddis Div. Gaeth will headquarter in St. Paul. The division's two plants are located in Albert Lea, Minn., and Cottage Grove, Ore.

Gerry P. Re has been appointed technical service manager and **Howard J. Wood,** plywood service representative of the Western Operations Dept., Borden Chemical Co., New York City, according to **R. T. Hanson,** general manager. Both men will headquarter at the Springfield, Ore., plant and be responsible for areas west of the Rocky Mountains.

Miss Thelma L. Watson has been named executive vice-president, Carter Products Co., Inc., Grand Rapids, Mich., according to **Andrew G. Carter,** president. Miss Watson has been associated with the company for 19 years serving as sales manager, director of advertising and most recently as treasurer.

A. R. Dewey, vice-president in charge of Hines Lumber Co.'s western operations at Hines, Ore., will join the executive staff at the company's general offices in Chicago, according to **Charles M. Hines,** president. **R. L. Jackson** has been promoted to general manager of the Hines, Ore., operation.

Robert L. French has been appointed vice-president in charge of Canadian operations, Atlantic Lumber Co., Boston, Mass. He succeeds Arthur B. Glidden, who resigned.

DEATHS

Ernest L. Kurth, 75, chairman of the board of Angelina County Lumber Co., and of Southland Paper Mills, Inc., died October 26 at Lufkin, Tex., following an extended illness. As vice-president and general manager and then as president of Angelina County Lumber Co., Mr. Kurth built a great lumber manufacturing industry based on the principles of sound forestry practices, taking great pride in the fact that his company never cut more timber in any one year than matured on the tracts.

He was most widely known for his unbounded faith in the possibility of producing newsprint from southern pine, an

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idea which culminated in the construction of the first paper mill in the south, Southland Paper Mills. Because of his contributions to his area, he was named "Man of the South" in 1949.

Survivors include his wife, Isla; daughter, Mrs. Carey Kurth Tipton; son, Ernest L. Kurth, Jr.; two grandchildren and three great grandchildren.

Walter E. Morgan, president and treasurer, Morgan Lumber Sales Co., Columbus, Ohio, died of cancer on October 27 at Mt. Carmel Hospital, Columbus. He was 66.

A long time member of the National Lumber Mfrs. Assn.'s Advisory Committee on Products and Research, he was one of the industry's first advocates of the need for a cooperative wood industry promotional effort. From his initial suggestions at an annual meeting of the National Association of Commission Lumber Salesmen in 1957 came the National Lumber Council for Marketing, forerunner of the current National Wood Promotion Program. He was named "Lumber Marketer of the Year" in 1958 by Crow's Lumber Digest. He was a charter member and past president of N.A.L.S.

Survivors include his wife, Elizabeth; daughter, Mrs. Ann Albershardt and three grandchildren. The Morgan Memorial Cancer Research Fund with headquarters c/o Dr. Charles Doan, Dean, College of Medicine, Ohio State University, Columbus 10, Ohio, has been started in his memory.

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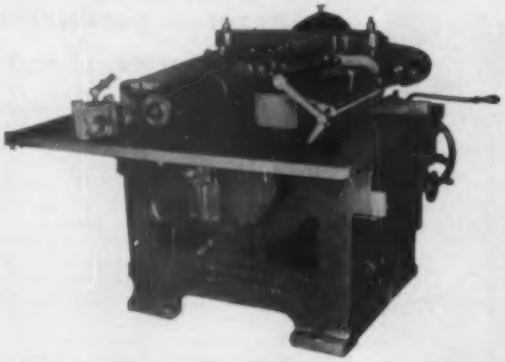

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Vertical adjustment for feed works, Horizontal adjustment for rolls.

Vertical adjustment for table. Variable feed.

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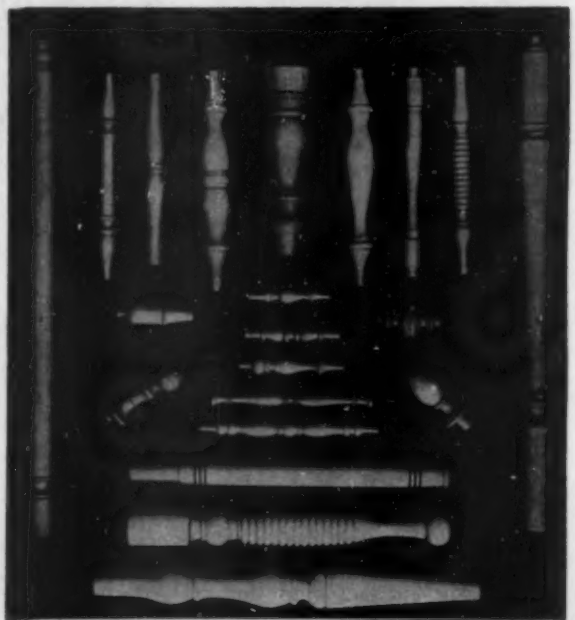

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(Continued on page 154)

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Surplus cabinet doors, not machined. ¾" thick in varying sizes. Chip core center, banded 4 sides. Birch faces and backs. First quality. Available 40 cents sq. ft., F.O.B. West Pittston, Pa. Write: MARVELL KITCHENS, INC., Tunkhannock & Philadelphia Aves., West Pittston, Pa.

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KILN DRIED SQUARES in most Southern Species also Walnut, Cherry, Hard Maple, Mahogany. 1½x1½, 2x2, 2½x2½, 3x3, ripped from lumber. 100% usable. Any length.
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We are looking for a manufacturer that can use unlimited quantities of quarter sawed white oak pieces that will measure from 14" in length to 24" in length, widths from 1¾" to 3", in thicknesses of 1¼" to 1½". This material can be sold green or air dried on sticks or whatever the customer will desire. We ask that all interested parties write to us immediately.
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FOR SALE

Borer Andrews 72" Vertical Gang
Borer Andrews 120" Vertical Gang
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Moulder Hermance #50 & 60" Belt Dr.
Moulder Mattison #222 6"x4" Elect.
Moulder Mattison #229 8"x4" Elec.
Moulder Newman #412 12"x4" Elect.
Moulder Vonnegut 6" & 12" Electric.
Moulder Woods 137M 6"x4" Elect.
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Moulder Vonnegut "V" 4"x4" Electric
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Resaw Mershon #54-C 54" Ball Bearing.
Resaw M-J #210 54" Ball Bearing
Router Porter 900 7200 r.p.m. 5 hp.
Saw Diehl #75 Straight Line DMD.
Saw Mattison 202 Straight Line DMD.
Saw Mattison 207 Straight Line DMD
Saw Newman #37-A Gang 5" Arbor
Saw Tannewitz 48" Band Scroll
Sander Smith #404-B 42" Endless Bed
Sander Yates-Am. #431 42" Endless Bed
Shaper Whitney #138 & #150 Doubles.
Surfacer F & E #156 30" Single DMD
Surfacer Greenlee #110 30" Single DMD.
Surfacer Whitney #24 30" Double DMD
Surfacer Whitney #32 30" Single DMD
Surfacer Yates-Am. #177 30" Double DMD.
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7' Clark Band Sawmill, complete ..$5,000
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Milwaukee 36" Sander $250
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SAWS—Cut-off, spur, chain, and self-feed rip; combination and variety; swing and straight-line cut-off; radial arm.
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435 Feet, ¾"x1½"x5", Log Link Chain
This equipment stored and ready to load.

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Band Saw, 30" Hall & Brown #186, DMD.
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Box board matcher, #336 Mereen-Johnson, DMD.
Box Board Printer, 2 color, Morgan 20" x 42"
Box Makers Carriage Cut-Off Saw, M-J (2)
Box Makers Rip Saws, DMD, M-J, (2)
Cut-off saw, Dauber-Bell, double mitre, m-d.
Delta 10" Tilt Arbor Unisaw (2).
Delta and Boice Crane Shaper, sgl. phase.
Glue jointer, Frank Diehl, m-dr., 3 motors.
Jointer, Yates #199, 30" with feeder, B.B.
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Mortiser, hollow chisel, Greenlee No. 228, power feed.
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Nailing Machines, Closed and Open Back.
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Dowel Machine, Bell Cutter & Pointer DMD
Hog, Gruendler 1822 BB DMD 75 HP
Hog, M&M #5BB V Faced DMD
Hog, M&M Type A BB DMD 60 HP
Moulder, American #35 9"x4" Elec.
Moulder, Woods #134-M 10" Lag Bed
Moulder, Woods #133 10"x4" BB BD
Moulder, Vonnegut 6" Electric Hopper Feed
Planer, Sgl. Crescent P-24 24"x8" BB DMD
Planer, Sgl. Buss 4A 30" DMD
Planer, Sgl. L. Power 23" BB DMD
Saw, Glue Joint, E-C Mod. E. 15 HP
Saw, Beach #1 Dbl. Tilt Arbor
Saw, Bell #12-B Dbl. CO & Mitre DMD
Saw, Band, Tannewitz RH 42" DMD
Saw, Band, Yates-AM Y36 36" DMD
Router, Porter #612, 3 HP, 20,000 RPM.
Sander, Solem SE 7-4, 4 Drum 48" DMD
Sander, W&M #309 30" Disc & Osc. Sp DMD
Shaper, Porter #200 1 Sp. 5 HP DMD
Shaper, Porter #206, 2 Sp. 5 HP Motors
Shaper, Beach #305 2 HP

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Planer, H & B 24x8 Dbl. M.D., $500.
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Ripsaw, Yates G-3 dtline, $300.
Routers, Onsrud radial, $150.
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1—#137M Woods 6" Moulder with Random Length Hopper Feed $6,500.00
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3—#124 Mattison Automatic Stroke Belt Sanders ..... $790.00 ea.
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1—#837 Falls Continuous Feed Glue Jointer $350.00
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2—#247 Whitney 2 Sp. Shapers .... $500.00 ea.
1—#29A Whitney 2 Sp. Shaper $500.00
1—#20 Whitney 2 Sp. Shaper $500.00
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1—Fay & Egan Band Resaw, without Motor $250.00
3—31" Hamant Vertical Graining Machines ..... $3,000.00 ea.
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1—#90 Allington & Curtis Fan, Direct Driven by 450 RPM, 40 HP Motor $1,250.00
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All Motors 220/3/60.
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Dallastown, Pa., or Phone: Red Lion, Pa. 33711

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Union 10x12 horizontal, belt-drive.
Various sizes.

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American No. 1, 40-in. ball-brg., V-belt-dr.
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Greenlee No. 309 5-ft. vert., ball-b., d.m-d.
Andrew single-spindle, direct motor-driven.
Defiance single-spindle, ball-brg., dir. m-dr.

CLAMPS
Black Bros. 40-sec. 8-ft. cat. 5 clamps sec.
Lancaster No. 100C, case, air-operated.

DOVETAILERS
Dodds 10, 15 and 20-spindle.

GLUE JOINTERS
Jenkins 343 A continuous-feed, b-b., d. m-d.

GLUE SPREADERS
Francis 12-in. single roll, V-drive.
Union 48-in. dbl. rubber rls. d.m-d.

GRINDERS
Buffalo 76-in., knife, direct motor-driven.

JOINTERS
F&E 12-in. ball-brg., V-belt drive.
Kane & R 12-in. ball-brg., V belt-driven.
American 8-in. ball-bearing, V belt-driven.
Delta 8-in., ball-bearing, dir. motor-driven.
New Moak 12-in., ball-brg., motor-driven.

LATHES
Whitney back-knife, ball-bearing, V-drive.

MORTISERS
W&M No. 284, single-spindle, direct mtr-dr.
Whitney No. 67 oscillating, direct motor-dr.
New Britain No. 7 chain, pb., belt-driven.

MOULDERS
American No. 35, 10-in. ball-brg., dir. m-d.
Mattison No. 226, 12-in. electric b-b., d.m-d.
Vonnegut 12-in. electric, ball-brg., dir. m-dr.
Hermance 12-in. ball-b., belt-dr., with mtr.

PLANERS
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Yates-Amer. No. 186 dbl., 20-in., motor-dr.
Buss No. 4, 30-in. sgl., ball-brg., dir. m-dr.
Berlin 36-in. sgl., round-head, dir. motor-dr.
F. & E. No. 129, 13x6-in., pb, belt-dr., 4-side.
Yates A-1, 15x6-in., pb, b-dr., 4-side, rd-hds.
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Buss 30-in. dbl., 30-in. b-b., V-belt dr.

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Porter No. 606—H. S. b.b. dir. motor-dr.

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Nash No. 24, 6-spindle, direct motor-driven.
Oliver scroll, direct motor-driven.
Nash No. 25, 10 spindle, direct motor-driven.
Pearson, single-spindle, vert., dir. motor-dr.
Oakley, drawer, motor-driven.
Mattison No. 172, edge belt.

SANDERS (Cont'd.)
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Curtis 10-ft. semi-auto., V belt-drive.
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F. & E. 60-in., 3-drum roll-feed, dir. m-dr.
NEW Vonnegut brush sanders, direct m-dr.
Niagara brush, ball-bearing, direct mtr-dr.

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New Moak single-spindle, b-b., dir. mtr-dr.
Porter No. 105, b-b., d.m.d.

SAWS
Mattison No. 207, chain-feed, b-b., d. m-d.
Wilkin-C. No. 87 dbl. cut-off, 60x100-in., ball-bearing, direct motor-driven.
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Y-Amer. G-77 chain feed str. line rip b-b. d.m-d.
Y-Amer. No. 67, chain feed str. line b-b., dmd.
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Diehl No. 75, Str. Line chain feed, b-b., d.m.d.

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Greenlee 306 sgl. sp. vertical ball brg. d.m.d.

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Oliver 189-BD 12-in. jointer, b-b., d. m-d.
Crescent 12-in. jointer, ball-brg., dir. m-d.
Yates-American 8-in. jointer, b-b., d. m-d.
Heston-Anderson 6" jointer, 60" table.
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Porter 30" facer b-b, m-d. Billstrom feed.

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Buss 4-A, 30"x7" dbl. cabinet b.b. d.m.d.
Whitney No. 34, 30-in. double.
Fay & Egan No. 196, 36-in. ball-brg., sgl.
Hermance 25-in. sgl. ball-brg., dir. mtr-dr.
Crescent P-34, 24-in. sgl. ball-brg., d. m-d.
Powermatic 15" planer b.b. m.d

ROUTERS
Onsrud W-240 router, b-b., mtr-dr.
Onsrud A-1-C, 84" radial.
Ekstrom-Carlson V-84, 84" Radial.

SANDERS
Oakley E and E-1 semi-auto dbl. belt.
Oakley Model D, semi-auto. sgl. belt, d.m-d.
Jones-Superior 48-in. double disk, mtr-dr.
Oliver 162-D, 15-in. disc sander, dir. m-dr.
Rendix 12" horizontal belt, b.b., m-d.

SAWS
Mattison 202 str. line rip, b.b., d.m-d. (2)
Fay & Egan No. 50, 26" band saw, b.b., m-d.
American 36" band saw, b-b., d. m-d.
Oliver 260 dbl. arbor, tilt arbor, b-b. d.m-d.
Oliver 290, dbl-arbor tilt-arbor, b-b, d.m-d.
Crescent tilt-table saw, ball-brg., dir. m-d.
Yates-Amer. J-130, 20" band saw, b-b., m-d.
Frank E. Jones 24" band saw, b.b d.m.d.
Yates-Amer. G-2 str. line rip. b-b., d. m-d.
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Fay & Egan No. 506, 12-in. direct motor-driven, ball-bearing.

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Hermance No. 50—12-in. ball bearing, coupled motor.
Mattison No. 272, 4-in. electric.
Wilkin-Challoner ball-bearing 3-side sash sticker.
Mattison No. 220, 8-in. and 10-in. electric.

PLANERS
Oliver No. 261, 30x8-in. direct motor-driven single surfacer.
Buss No. 4A, 30-in. dir. motor-driven ball-bearing single cabinet.
Whitney No. 32A, 36-in. single cabinet, motor-driven.
Porter-Herzog 24-in. direct motor-driven facing planer.
Whitney No. 24, 30-in. motor-driven ball-bearing double cabinet.
Whitney No. 97, 30-in. MD ball-brg. double.
Whitney No. 33, 23-in. MD, BB, double surfacer.

SANDERS
Yates-American S-33, 43-in. direct motor-dr. endless-bed, 3-drum.
Yates-American No. 433, 43-in. direct motor-dr. ball-b., endless-bed.
Yates-American 833, 43 and 49-in. dir. mtr-dr. ball-brg., roll-feed.
Wysong & Miles No. 270, MD edge belt sander.

SAWS
Oliver No. 116-D, 36-in. direct motor-dr. ball-bearing bandsaw.
Diehl No. 750 direct motor-driven chain-feed S/L ripsaw.
Hall & Brown No. 223 direct motor-dr. ball-brg. self-feed ripsaw.
Do-All 16-in. ball-bearing motor-driven band saw.
Yates-American G44 DMD cut off saw w/tables.
Diehl No. 734 DMD cut off saw w/tables.
Mattison No. 207, DMD chain feed S/L ripsaw.
Diehl #75 DMD straight line ripsaw.

SHAPERS & ROUTERS
Fay & Egan No. 252 ball-brg. motor-driven single-spindle shaper.
Crescent 52 single-spindle, belted motor.
Whitney No. 193 automatic, single-spindle, direct motor-driven.
Whitney No. 89 motor-driven single-spindle.
Whitney hi-speed double-spindle, belted motors.
Ekstrom-Carlson No. 162 motor-driven ball-bearing, single-spindle.

MISCELLANEOUS
American No. 2½ electric single-end tenoner.
Powermatic No. 2A single-end tenoner.
Powermatic No. 15 chain saw mortiser.
J. M. Nash double-end sawing and chucking.
S. A. Woods No. 336-M cutterhead grinder.
Yates No. 213 direct motor-driven ball-brg. cont-feed glue jointer.
Dodds 20-spindle dovetailer.
Mattison No. 231 cutterhead grinder.
Pringle & Brodie 6-in. ring machine.
Beach DMD vert. hollow chisel mortiser.

All of the above items may be inspected here at our warehouse.

1637-59 LOWELL AVE.

GUSTAFSON & SCOTT

SPaulding 2-8630
CHICAGO 39, ILLINOIS

USED MACHINES RELIABLY REPRESENTED

BORERS
GREENLEE No. 309 3-ft. vertical gang borer.
FAY & EGAN No. 312, 23" vertical gang borer.

CLAMP CARRIER
TAYLOR 8-ft. 6-in., 40-section.

CUT-OFF SAWS
BEACH 4'x8' Roller table dbl. cutoff saw.

JOINTERS
YATES No. 213 glue jointer, MD, Ball Brg.
FAY & EGAN No. 506, 12-in. jointer.

MOULDERS
MATTISON No. 274, 4 and 6-in. elec. b-brg.
MATTISON No. 272, 4-in. electric, ball-brg.
MATTISON No. 229, 10-in. elec. ball-brg.
YATES C-3-A, 4-in. ball-brg. b-d.
YATES No. 108, 10-in. b-d., 20-h.p. motor.
DIEHL VONNEGUT 12-in. electric ball bearing.

RIP SAWS
MATTISON No. 207 chain-feed rip saw.
DIEHL No. 750 rip saw.
DIEHL No. 73 Chain Feed rip saw.
DIEHL No. 55 chain feed rip saw.
OLIVER No. 95 chain feed rip saw.
AMERICAN No. 1 roll-feed.
DEPENDABLE No. 112 gang rip saw.

ROUTER
PORTER No. 500 Router.

SANDERS
WYSONG & MILES No. 270 edge sander.
MATTISON No. 115 variety belt sander.
CURTIS No. 51 hand-block belt sander.
YATES No. 433, 43-in. 3-drum endless-bed.
YATES-AMER. S-23, 43-in. 3-dr. roll-feed.

SHAPER
WHITNEY No. 295 Double-Spindle Automatic Shaper.

HOT PLATE PRESSES
BERTHELSEN 36x72-in. single-opening hot-plate press.
WILLIAMS-WHITE 100-ton 27x25-in. 280 p.s.i. six 7-in. daylights.
7½ H.P. hot plate press Vickers pump unit.

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WOOD & WOOD PRODUCTS, 59 E. MONROE ST., CHICAGO 3, ILL.

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BORING MACHINES
*Root 6' C & CH Hyd. 10-Spl Vert. Gangs
*E-C #448 4-Spl. Vert. (Like New)
*Root G-300 Hyd. Sgl. Spl.
*Root GM & Greenlee #336 Vert. Sgl. Spl.
*Oliver #72-D Vert. Sgl. Spl. DMD
*Indiana #15-H 2-Spl. Horiz.

CLAMPS
52" x 100" Electrogluer with side pressure
Lancaster #1100-D 84" Case Clamp (new)
Handy #835-7, 21" x 46" Hot Press Clamp
*Handy 4x8-ft. Pneu. Door Clamp (2)
*Handy Hand & Air Operated Case Clamps
Billstrom & Taylor Clamp Carriers

JOINTERS & FACERS
*6" — 16" Jointers (All Makes)
*20" Oliver—Newman Hand Jointers DMD
*Oliver 30" #122 Facing Planer; Var. Feed
*Amer. 24" Jointer with Swing-Out Feeder.
*Diehl #680 Glue Jointer DMD

LATHES
Yates #74 Automatics (2)
*Smith - Goodspeed - Pringle & Brodie Var.
*Oliver Pattern Makers Lathes

MORTISERS
*Northfield & Powermatic Chain Saw
*Greenlee #227-BM Power Feed HC (New)
*Wysong & Miles #284 Power Feed HC
*Sidney DMD Power Feed Hollow Chisel Bell #90 6-Spl. Vert. Gang

MOULDERS
*4" — 6" XL Moulders
*6" Timesaver Electric Moulder
*6"—12" Hermance Ball Bearing Moulders
6" & 10" Woods #137-M & #134-M Electrics
*8" — 8" — 10" Y-A C-99 Electrics
6"-10" Dependable #150 Electrics
Woods #147-M 2-Hd. Elec. Dowel Moulder
*10" Mattison #229 Electric.
10" Y-A C-99 5-Head Electric
12" Vonnegut 5-Head Electric
16" Y-A C-99 Electric

PLANERS
*20" Y-A B-8 Single VBD
*20" Oliver #261-AD Sgl. DMD
20" Whitney #32 Sgl. DMD
*20" Greenlee #110 6-Roll Sgl. DMD
*26" Whitney #23-A Sgl. Var. Feed
20" Woods #450-BM dbl. Roughing.
*20" Y-A #177 Roughing Dbl. DMD
20" Whitney #24 & #24-A Double
20" Whitney #97 dbl. DMD
20" Buss #4-A Dbl. DMD
*22" Whitney #33 Heavy Duty Double
40" Greenlee #120 Double DMD

PLANERS & MATCHERS
20" Y-A A-20 DMD with dbl. prof.
15" Woods #404-DM Electric and Profilers
M-J #326 DMD Boxboard Matcher

ROUTERS
Onsrud W-240-E-C #434
*Porter #600 & #613—E-C #156
*Duro Electric

SANDERS—Drum
*43" Smith #401-D 3-D End. Bed DMD
*43" Y-A #433 3-D End. Bed DMD
43" Sheboygan 3-D End. Bed DMD
*49" Y-A S-33 3-D End. Bed DMD
*49" Y-A S-23 3-D RF DMD (2)
80" Timesaver Top Sander (like new)
24" Oakley Wide Belt Sander

C H MERRY I S T M A S and HAPPY NEW YEAR

ALWAYS IN THE MARKET FOR MACHINERY—ONE MACHINE OR A WHOLE PLANT.

*Denotes machines in Chicago Stock

SANDERS—Belt, Disc & Spindle
Oakley H-5 Osc. Edge Belt
*Mattison #176 Osc. Edge Belt (2)
W&M #610 Hyd. Dbl. Belt Auto.
Mattison #303 and #124 Dbl. Belt Auto.
*Oakley Model E-1 & D Sgl & Dbl. DMD
Oakley H-12 Drawer Sander MD
Industrial & Lancaster Drawer Sanders
*36" — 48" DMD Disc Sanders
*W&M #303 Disc & Spindle Sander MD
Nash—54" Schipper Spl. Sanders
24" Oakley Wide Belt Sander

BAND SCROLL AND RESAWS
20" Jones-Superior Band Saw.
*American 36" with Carter Wheels
*36" Oliver #116 Band Saw (Late Type)
54" M-J #210 Band Resaw
*M-J #220 & Mershon 54" Twins
60" Y-A V-60 with pilot set works

CUTOFF SAWS
*Tannewitz Type M Miter Saw
*H&A Cut-off Saws
Porter #43-J Hydracut.
Irvington #19 Automatics (2)
*Palesch MD Automatic Air Operated
*Oliver #94 DMD with tables
*Diehl #724 DMD with tables
*Mattison #244 DMD with tables
Beach Dbl. C/O—all sizes.
Beach Dbl C/O with DMD tilting arbors
M-J #435-H 3-Way Sizing & Cut-Up Unit
*Particle Board Sizing Saw (Auto.)
Greenlee #542 Dbl. with dado arbor

RIPSAWS
*Mattison #203 Straight Line
*Diehl #750 Glue Joint Rip Saw
*Y-A G-77 Straight Line Rip Saw
*Hall & Brown #223 Gang Rip Saw DMD
Y-A GG-2 Gang Rip Saw DMD
M-J #440 & #441 Gang Rip Saws
Bates Self-Feed Gang Rip Saw

VARIETY SAWS
*Fay & Egan #330 Tilt Table BB VBMD
*Towsley Tilting Arbor Saw
*Tannewitz Type U Tilting Arbor Saw
*Whitney #77 Tilting Arbor Saw
*Greenlee #495 Tilting Arbor Saw
Wallace Panel Grooving Saw

SHAPERS
*Crescent S-2 Single Spindle
*F&E #252 Sgl. Spl. Belted MD
*Sidney Sgl. Spl. 4 HP SC-BMD
*Onsrud W-250 Comb. Shaper & Router
*Whitney #80 Single BMD
*E-C #162 Sgl. with 5 HP belted MD
*G&L Sgl. & Dbl. Spl. DMD
*Whitney Sgl. & Dbl. Spl. DMD & BMD
*Whitney #193—#198—#299 Automatics
*Onsrud WA-50—W-125—WB—85AE

TENONERS—Single End
*Greenlee #332 DMD with U&L Copes
*Hermance & Powermatic with U&L Copes

TENONERS—Double End
*Jenkins 78"x42" #95 Electric.

VENEER EQUIPMENT
38"—60" Glue Spreaders
Diehl #89 Veneer Splicer
36"x120" Handy Screw Veneer Press
12' & 16' x 26" & 40" Elec. Edge Gluers
50x75" Black Electric Cold Press
*44" x 88" Berthelsen Hot Plate Press
30" Seybold Veneer Clipper & Jointer.
58"x106" BVH 24 - O Hot Plate Press (new)
60"x60" Berthelsen 2-Open, with shuttles
24"x54" Wood Ten - O 500 PSI H. P. Press
110" Seybold Veneer Knife Grinder.
12' Capital Veneer Slicer
16' Merritt Tr. Head Jointer

MISCELLANEOUS
E-C Corner Block Machine DMD
Bell Auto. Dowel Cutter & Pointer
56" Black Rotary Press.
*52" Black Roller Coater (like new)
*Dodds 12 & 20-Spdl. Dovetailers
*Mattison #231 Cutterhead Grinders (2)
*Woods #336M Bench Grinder
*Bell #8 Dowel Driver & Gluer (2)
*Handy 4' x 8' Pneu. Door Clamps.
*30" to 75" Morgan & Honewell OB Nailers
M-J #326 DMD Boxboard Matcher
12' Handy Pneu. Scarfing Press
Wardwell & Black Diamond Saw Filers
*Woods #329-MT Elec. Jointing Stand.

This is a Partial List — Over 100 Machines in Our Chicago Warehouse — Over 30 Years of Woodworking Experience

FRANK J. HOFFMANN COMPANY

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Cincinnati, Ohio

Woodworking Machinery
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FADER-GRAM

To: MACHINERY BUYER

WILL GIVE YOU BEST PRICE POSSIBLE. ALL MACHINERY COMPLETELY REBUILT, FULLY GUARANTEED. CHECK YOUR NEEDS AND CALL TODAY. ACT NOW BEFORE SOLD.

A. L. FADER, PRES.

ALL OFFERINGS SUBJECT TO PRIOR SALE

BAND SAWS

Fay & Egan No. 50, 36-in., motor driven.
Superior and West Side 36-in., motor-driven.
Jones-Superior 20" ball-brg. mtr-dr.

BORERS

Andrew multiple-spdl. vert., power-feed.
Greenlee 870, 4-ft. mult-spdl, horiz., pwr-fd.
Frytbil 3-spindle adj. radial, motor-driven.
Superior 3-spdl. adj. horiz., motor-driven.
Pringle-Brodie 8 spdl univ. vert, m-d.

CLAMPS — ASSEMBLY

Morgan No. 1 box squeeze mach., motor-dr.
Handy end and frame, all sizes.
Newman sash and door clamp, foot-operated.
Lancaster Duncan Phyfe pedestal, air-oper'd.
American quick acting sash clamp 5'x7' cap.
Handy No. 160 quick acting Mitre Frame.

DOWEL MACHINERY

Bell No. 3 dowel pin cutter and pointer, m-d.
Bell No. 8 auto. gluer & dowel driver, d. m-d.
Hawker No. 2 dowel rod, mtr-dr.

FACERS (JOINTER-FEEDERS)

Yates-Am. 36-in., Jackson-Church feed.
Porter No. 300, 30-in. with Billstrom feeder.
Porter-Herzog 24-in. direct motor-driven.

JOINTERS

Fay & Egan 8-in. floor type, d. m-d., ball-brg.
Diehl No. 60 cont. chain-feed, d. m-dr., b-b.
Jenkins 3 CD cont. chain-feed, d. m-dr., b-b.
Yates-Amer. 218 cont. chain-fd., d. m-d., b-b.

MORTISERS

Greenlee No. 227 hollow-chisel, b-b., pwr-fd.
Wysong-Miles #321 hol-chisel, b-b., d. m-d.
New Britain No. 2 chain, motor-driven.
Wysong-Miles #284 hol-chisel, b.b., pwr. fd.

MOULDERS — FOUR SIDE

Mattison No. 229, 8" & 10", elect., b-b., h. f.
Yates C-3-A 4-in. ball-brg., motor-driven.
Mattison No. 272, 4-in., all-elec., ball-brg.
Vonnegut 12-in. all-electric, hopper-feed.
Hermance No. 60, 6", b-b., late type, m-d.
Hermance No. 50, 6-in., ball-bearing.

PLANERS

Oliver No. 299 24-in. sgl. ball-brg., d-m-d.
Yates-Amer. B8 20-in. sgl. cabt., b-b., d. m-d.
Y-Am. 177, 30-in. hvy-duty dbl., b-b., d. m-d.
Buss No. 66 30" sgl. cab., mic. cont., b-b., d.m.d.
Whitney No. 24, 36-in. dbl. cabt., b-b., d. m-d.
Whitney #24, 24-in. dbl. cabt., b-b., d.m-d.
Crescent P24, 24-in. single, dir. m-d., b-b.
Yates-Amer. B44, 24-in. Sgl. ball-brg., d-m-d.

SANDERS

Wysong & Miles No. 320 belt, for drawers.
Wysong & Miles No. 173 universal variety.
Production 14-in. horiz. & vert., belt, m-d.
Pearson edge moulding, d. m-dr., ball-brg.
Wysong & Miles 209 disc and spdl., d. m-dr.
American "Columbia" 49-in. 3 dr. Rollfeed.
Ekstrom-Carlson No. 18 pneu. spdl, d.m-d, b-b.

A. L. FADER & COMPANY
WOODWORKING MACHINERY
Phone STate 2-7634
225 N. DesPlaines St.
Chicago 6, Ill.

SAWS — CUT-OFF

Sidney floor type dir. motor-dr., ball-brg.
Oliver #94 straitline floor type, d. m-dr., b-b.
Jenkins #106 ch-fd., dbl-end, d. m-d., b-b.
Monarch "Unipoint" radial arm, d. m-d, b-b.
Bell 12B dbl-end mitre & cutoff, d. m-d., b-b.
Yates-Amer. G44 floor type, swivel base,DMD.
DeWalt radial arm, 5 h. p. d-m-d, b-b.

SAWS — RIP

Beach No. 183 spur-feed, dir. m-dr., ball-b.
Mattison No. 202 chain feed, d.m.d. ball-brg.
Greenlee No. 426 M, power feed, d-m-d, b-b.

SAWS — VARIETY

Oliver No. 88 tilt-arbor, dir. m-d., ball-brg.
Oliver No. 270D tilt-arbor, dir. m-d., b-b.
Tannewitz "F" tilt-table, motor-driven.

SHAPERS

Yates-Am. N4 sgl-spdl. hi-spd., b-b., d. m-d.
Oliver single-spdl., hi-speed, b-b., dir. m-d.
Porter 203SCD sgl-spdl. o.h. steady brg., b.b.
Whitney No. 200 Sgl. Spdl. Automatic, b-b.

SPREADERS — GLUE

Black Bros. No. 5, 13-in., direct motor-dr.
Bell No. 13 automatic dovetail gluer.
Black Bros No. 6, 18", direct motor-dr.

TENONERS

Greenlee #532, sgl-end, fully equipt. d. m-d.

VENEER MACHINERY

Diehl No. 89 tapeless splicer, d. m-d.
Francis 4x10-ft. hand screw laminating press.
Dennis veneer taping machine, motor-drive.
Diehl No. 69 Cont. Chain Feed Veneer Jointer.
Berthelsen 50" x 100" single opening, hydraulic hot press, auto. oil heating, pressures to 300 lbs. p.s.i.

MISCELLANEOUS

Mattison 57D auto. turning lathe, ball-brg.
Diehl No. 68 univ. cutterhead grndr, d. m-d.
Auto-Nailer "Crusader," direct motor-dr.
Frequency changers, 5, 6, 10 and 30-kw.
Yates-Amer. MT univ. cutter grinder.
Cutterheads-Moulder, tenoner, shaper.
Dobbs 12 spdl. dovetailer, motor driven.

HONEST VALUES... ACCURATELY REPRESENTED

BORERS

Greenlee #388, 4 spindle horizontal ball bearing electric
Greenlee #386C, 6', 8 spindle, vertical universal, late model
Bell #27, single end combination boring, clinching and cutoff for furniture work, electric

CLAMPS

Handy Drawer Clamps, jaws 17" x 26" to open 23"
Taylor 8 section Clamp carrier 8'

DOVETAILER

Dodds, 12 spindle

DOWEL

Bell 4A for ¼" x 2" dowels, ball bearing electric

MOULDERS

4" Vonnegut late model, all electric with many extra heads
6" Vonnegut electric with hopper feed
6" Mattison #222 electric
12" Mattison #236 electric

SANDERS

Drum Smith 805B, 43" 3 drum, endless bed, late model
Drum Solem SE7-4, 49", 4 drum, endless bed, late model
Belt, Curtis 43R1, 8' double belt hydraulic stroke
Wide Belt, Nash 58-36, 36" wide, 30 HP
Wide Belt, Nash 58-50, 50" wide, 40 HP

SAWS

Rip, Yates-American G2 chain feed, ball bearing, electric
Rip, Diehl #75, chain feed, electric, late model
Variety, Tannewitz type U, tilt arbor
Table, Beach Rip & Cutoff, roller table

NAILERS

Morgan #12, 12 track, 30" open back, late model
Morgan #18, 18 track 48"-54" open back, late model
Morgan #30, 30 track 79"-90" open back, late model

VENEER & PLYWOOD

Clipper—Capital 65" & 100"
Clipper—Sheridan 50", 70" & 85"
Lathe—Merritt 54" electric
Lathe—Capital 65" electric
Lathe—Merritt 90" electric
Lathe—Capital 102" electric
Lathe—Coe 124" electric
Slicer—Capital 16', electric, with hydraulic offset
Dryer—Merritt Dryad, late model 25' x 9½', 5 deck, roll feed
Dryer—Proctor, Style A, 68' long, 13' wide, 2 deck
Dryer—Procior, Style C, 50' long, 17' wide, single deck
Splicer—Diehl #99 - #990 - #900
Press—Merritt 90 x 100 hydraulic cold press
Press—Berthelsen 44" x 86" hot plate
Press—Berthelsen 50" x 100" hot plate
Press—Williams & White 64 x 104, 12 opening, hot plate

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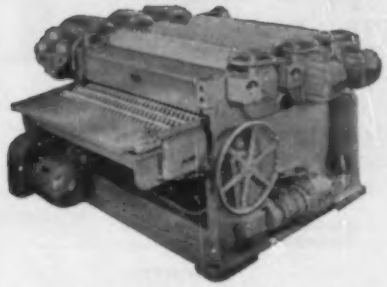
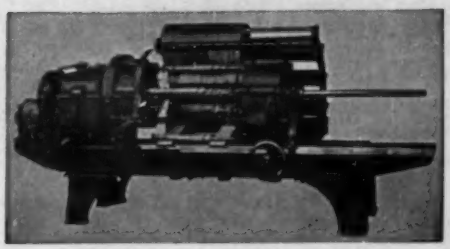


Smith #C505B 43"
3 - Drum
Endless Bed Sander

Nash #24 72-in.
Automatic
Spindle Sander



Here is a Partial List of Machines We Can Furnish

If the needed machine is not listed below, advise us what it is. We will help you get it.

BAND RESAWS
54-in. Mereen-Johnson No. 210 Vert. left hand, ball bearing, BD.
54-in. Yates-American V-54A Vert. right hand, roller brg. 40 HP V-dr.

BAND SAWS
36-in. Fay & Egan, motor driven

BORING MACHINES
Bell No. 6 auto. dbl. end, 3-spindles ea. end, ideal for door stiles & rails.
Greenlee No. 398-C, 8-ft. universal, 16-spdl., Variable feed, ball-brg. m-dr.
Nash 4-spdl. for chain seats, MD.
Root Style C 72-in. 9-spindle vert., auto. universal, power-fd, motor-dr.

BOX MACHINERY
Boxboard matcher, Morgan 12-roll.
Corrugated fastener, Morgan 2-head motor-driven. (New—at reduced price).
Corrugated fastener, Saranac No. 1RA, single-head, motor-driven.
Handhoier, F & E No. 234, MD
Nailer, Auto-Nailer Co. Model AS20.
Nailer, Doig "Universal" 4-tr. c.b. m-dr.
Nailer, Morgan 10-track, 22½-in. closed-back, comp. chucks, clincher, late model.
Nailer, Morgan 12-tr. 30-34-in. o.b. comp. chucks, clincher, like new.
Nailer, Morgan 18-tr. 40-46-in. openback, compression chucks, clincher, modern.
Nailer, Morgan 18-tr. 48-in. openback, comp. chucks, clincher, m-dr.
Nailer, Food No. 399000A, 24-tr. 66-in. openback, clincher, late type.
Nailer, Morgan 30-tr. 90-79-in. openback, plyboard cleater, motor-dr., late type.
Printers, chain and knocker-feed, all sizes.
Strapper, Doig, for beverage cases etc., MD
(We handle a complete line of machinery for all types of wooden boxes.)

CHAIR MACHINERY
Bell No. 24-B, 80-in. double-end sawing, boring and chucking.

CLAMPS
Case Clamp, revolving, Handy No. 401A, opens 72-in., closes 20-in. air operated.
Case Clamp, revolving, Union No. 1060A, opens 60-in., closes 15-in. air operated.
End & Frame, Bell "Scald" B, 2-way, air
Drawer clamp, F&E No. 1, opens 48-in
Sash & Frame, Black No. 200, 4x7', air-op.

CUTOFF SAWS
Eaglesfield overhead swing, b-b, m-d. 3 HP.
Jenkins No. 106-A 36x78-in. ch.-fd. ball bearing, motor driven.
Mereen Johnson No. 435-H, 12-ft. multi. cutoff and dado, ball-brg. m-d.
Porter No. 43-20J "Hydracut" with tables.

DOWEL MACHINES
Bell No. 3 dowel cutoff and pointer, m-d.
Bell No. 8 dowel gluer and driver, m-d.
Bell No. 4-A, ¼ to 2-in. dia. b-b., m-d.

DOVETAILERS
Dodds 10, 15 and 20-spindle, motor-dr.

FACING PLANERS
Yates-Am. 24-in. BB, MD with J.C. Feeder
Herzog Feeder for Jointer, 30-in. wide

JOINTERS
Northfield 12-in. hand b-b, m-d.

LATHES, AUTOMATIC
Mattison No. 55-C, 30-in. b-b., m-d.

MORTISERS
New Britain No. 7, vertical chain, mtr-dr.

MOULDERS
Smithway 4 x 2-in. ball-b., sgl. ph.
Smithway 6 x 2-in. ball-b., all elec.
Vonnegut 12x4-in. ball-brg., all elec.
Woods No. 701-B, 12x6-in. 5-head, b-b, m-dr.
Yates No. 108, 12x4-in. heavy duty, BD
Mattison No. 226, 12-in. ball-brg., all elec.

RIPSAWS
Mattison No. 202, ch-fd. ball brg. m-dr.
Mattison No. 207, ch-fd. ball-brg., mtr-dr.

ROUTERS
Ecco No. 126 disc drive, 2 HP.
Ecco No. 434, traveling spdl., 5-HP.
Yates-Am. Model U-9, hi-speed, 3-HP.
Porter No. 612, hi-speed, 3-HP

SAWS — VARIETY
Oliver No. 270-D tilt arbor, BB, MD, 5 HP

SANDERS — BELT
Nash No. 4 double belt auto. dowel and handle, ¼ to 1¾-in. dia. capacity
Mattison No. 138B hand block, ball brg. m-dr.
Newton E-30 osc. edge, m-dr., like new.
Yates S-4 non-osc. edge belt, motor-dr.

SANDERS — HANDLE
Nash No. 4 dbl. belt, rod and dowel

SANDERS — DRUM
31-in. Yates No. 413, 2-dr. end. bed, m-dr.
43-in. Smith No. C-505B, 3-dr. end. bed all elec. b-b. prompt shipment.
49-in. Smith No. 505-C, 3-dr. end. bed all elec. b-b.
55-in. Yates No. 401, 3-drum roll-feed m-dr.

SANDERS—SPINDLE
Nash No. 24, 72-in. 6-spdl., b.b. m-dr.

SHAPERS
Single-spindle Moak No. 7, hi-speed.
Single-spindle Porter No. 200, high-speed.
Double-spindle, Porter No. 206, high speed.

SURFACERS
Buss No. 88, 40x8" dbl., mic. rolls and pressure bar, ball brg., m-dr.
American No. 1½, 24-in. sgl., b-b., m-dr.
Greenlee No. 110, 36-in. single, 6-roll heavy-duty, ball-bearing, motor-drive.
Whitney 26x7-in. double, BB, m-dr.
Yates No. 177, 30x12-in. dbl. roughing, BD

TENONERS
Greenlee No. 545, 90x44-in. dbl. end, all elec. ball-brg. with window frame trim and dado attachment.

VENEER MACHINERY

Clipper, Capital 65-in. sizer m-dr.
Hi-frequency Veneer or Panel press unit—includes 2—36x72-in. hydraulic presses and spreaders.
Jointer, Diehl No. 69 electric, motor-dr.
Lathe, Capital 102x73x6-in. with adjustable staylog, motor-drive.
Lathe, Coe No. 242 110x48x5¼-in. rotary, motor driven, latest type.
Drum Sander, Yates No. 401, 55" 3-dr. m-dr.
Dryer, Merritt 24-ft., 5-deck, 1-way feed.
Dryer, Proctor Type C single line, 17-ft. wide
Glue Mixer, Black C-1, 10-gal., motor-dr.
Glue Mixer, Black C-4, 60-gal. m-dr.
Glue Spdr., Black No. 22-D, 50" dbl. m-dr.
Press, Cold, Black No. 121, 4 x 8-ft. electric.
Slicer, Capital 16-ft. all electric, with hydraulic offset.
Splicer, Diehl No. 89 tapeless, motor-dr.
Stroke sander, Curtis No. 43-R-1, 10-ft. hydraulic, auto., used 300 hours.
Taper Dennis No. 2 vari-drive, motor-dr.
Veneer tenderizer, Cardwell (Redmayne) 114"
Jointer and cutter, 34½-in. Diamond, m-d.
Jointer and cutter, 60-in. Sheridan "new model", m-dr.

MISCELLANEOUS
Blower, Clarage, 30-in. fan, BB
Graining Machine, Hammant with rolls.
Saw Sharpener, Hanchett No. 724 auto. for 6 to 24-in. circ. blades, MD.
Screw driver, Reynolds, w/boring attacht

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Oliver No. 71, horizontal.
Moak 2-spindle horizontal, air-operated.
Greenlee No. 369 Vertical.

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Billstrom 7½-ft. 29-sec. clamp carrier, four 30-in. clamps per section, air power drive.
Palmer 8½-ft. 16-section wheel type clamp carrier, six 30-in. clamps per section.
Palmer 6½-ft. 39-section clamp carrier, six clamps per section, open 32-in.
Taylor 7½-ft. 40-sec. chain type clamp carrier.
Black Bros. No. 200 sash and door clamp.
Handy No. 944 air-power door clamp.
Handy revolving air-operated case clamp, open 44-in.
Lancaster No. 400 pneumatic clamp.

GLUING & VENEER EQUIPMENT

Capital 42-in. & 76" clipper.
Diehl No. 800 Veneer Splicer.
Sheridan 48-in. veneer clipper.
Black Bros. 22-D, 62" dbl. roll glue spreader.
Merit 77" clipper.

JOINTERS

Jenkins 6 and 8-ft. saw type veneer jointers.
Diehl No. 660 Lumber Jointer.
Porter No. 300-30" facer with Jackson & Church Feeder.

LATHES

Oliver hand turning lathes.
Mattison No. 37D lathe.
Smith B43, self-feeding variety—lathes.

MORTISERS

No. 67 Whitney oscillating, single.
No. 80 Bell, multiple head, 6-heads, chain.

MOULDERS

Yates C-88, 8-in. ball-brg. m-dr.
Hermance No. 60—6-in., ball-brg.
XL 4" x 2" moulder.
Vonnegut 4 and 6-in. ball-brg., m-dr.
Mattison No. 276 ball-brg., m-dr.

MOTORS & FREQUENCY CHANGERS

20 & 25-KW General Electric frequency changer with 15-h.p. G. E. driving motor.

PLANERS

No. 23 Whitney 32-in. double, ball-bearing.
No. 4 Buss 30-in. single.
No. 22 Whitney 30-in. single cabinet.
Buss 30-in. single.
No. 120 Greenlee 30-in. double, ball-bearing, direct motor-drive.
Crescent 24-in., single.

PRESSES

Berthelsen hydraulic press, 60x80, 3-opening shuttle type.
Farquhar 22x25-in, 10-opening, hydraulic, hot-plate.

ROUTERS

Onsrud W-147-E radial arm.
Porter No. 600 2-speed, 12,000 & 20,000-r.p.m.
Onsrud W-340-D, 2-speed.

SANDERS

Bouligny No. 100 Molsander.
Nash No. 10 automatic sander.
Nash No. 87 automatic, 4-spindle, 20-in. capacity.
Wysong & Miles No. 171 moulding type belt.
Oliver No. 185-D moulding type, ball-brg., direct motor-drive.
Peerless flat bed.
Curtis Model 51, ball-brg., dir. m-d.
Wysong & Miles No. 204 automatic stroke.
No. 404 Smith 42-in. 3-drum, ball-b., d. m-d.
No. 25 Nash automatic turning.
S-323 Yates-American drum sander.

CUT-OFF SAWS

Porter No. 43-30J Hydracut.
Oliver No. 94 Cut-off.
Buss double cut-off.
DeWalt Model GE, 5-HP, radial arm.
Challoner No. 520-S, double cut-off.
Jenkins 290, double cut-off.

MITER SAWS, Etc.

Bell No. 13 double miter saws, one air-operated table, one mechanical.
Yates-American B-49 tilting-arbor.

RIP SAWS

Mattison No. 202 chain feed.
Diehl No. 75 straight line rip.
Alden No. 12, gang rip.

SHAPERS

Onsrud W124 automatic.
Whitney double-spindle.

TENONERS

Jenkins No. 95 ball-brg., direct motor-dr.
Greenlee No. 534 and No. 535, ball bearing, direct motor drive, single end.

MISCELLANEOUS MACHINES

Spartan Auto-Nailer.
Dodds 10, 12, 15 and 20-spindle dovetailers.
New No. 28C Ekstrom-Carlson infeed attachments.
Ross straddle carrier.
Bell No. 80 dowel driver.
McKnight corner block machine.
Walters rough mill conveyor.
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Andrew No. 5 single spindle, ballbearing, motor driven.
Oliver No. 72 single spindle, ballbearing, motor-in-head.
Root style "GM" single spindle, ballbearing, motor-driven.
Wysong & Miles No. 283-B single spindle, ballbearing, motor driven.

BORING MACHINES - HORIZONTAL

Greenlee No. 368, four spindles, ballbearing, motor-driven.
Bell No. 27 single end boring, sawing & chucking machine, mtr. dr.
Indiana No. 15-HAC double spindle, automatic, air operated, m-d.
American No. 2, two-spindle radial, 1"-16" adjustment, motor-driven.
Valley-City two-spindle radial, 1"-12" adjustment, motor-driven.

CARVING MACHINES

Porter ballbearing motor driven, pedestal type.

CLAMP CARRIERS

Billstrom 8 ft. 39-section, 6 clamps per section.

CLAMPS

Handy No. 23 two-way cabinet type, opens to 78", portable.
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Handy No. 60 hand operated drawer clamp.
Handy No. 64 air operated sofa and chair assembly clamp (NEW).

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Dodds 10, 15 and 20-spindle furniture drawer, motor-driven.

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Bell No. 3 dowel cutting-off and pointing machine, b.b., m-d.

GLUE SPREADERS

8" Black Bros. No. 22-D motor-driven, double roll vari-speed-feed.
Walco 40" bench type, motor-driven (new).

JOINTERS

16" Monarch (American) hand jointer, b.b., direct motor-driven.
Jenkins 343-A, continuous-feed glue jointer, direct motor-driven.

LATHES

Mattison No. 210, copying lathe.

MORTISERS

Wysong & Miles No. 294, vertical, 5 h.p., separate feed motor.
New Britain No. 2 and No. 7 chain saw type, motor-driven.
Greenlee No. 237, hollow chisel, vertical, motor-driven.

MOULDERS

4" Vonnegut all-electric four-side direct motor-driven, hopper feed.
12" Vonnegut, all electric, four-side, ballbearing, direct motor driven.

NAILERS

Autonailer "Crusader" model, with motor.
Morgan No. 3 and Morgan No. 8, motor driven.

PLANERS - DOUBLE

30" Whitney No. 24 b.-b. d. m-d., with grinder attachment.

ROUTERS

Onsrud No. 265 with 1½ h.p. motor, 20,000 r.p.m.
Porter No. 612 high speed, 2 and 3 h.p. motors (3).

SANDERS—ENDLESS BED

43" Yates No. 413 two-drum, ballbearing, motor-driven.
49" Solem Model S-3-M three-drum, ballbearing, mtr. dr.
49" H.B. Smith No. 505-C three-drum, ballbearing, motor driven.

SANDERS—MISCELLANEOUS

Ekstrom-Carlson No. 114 double oscillating spindle sander m-d.
Oliver No. 41 - 37" double disc, motor driven.
Mattison No. 137 moulding & panel belt sander, motor driven.
Yates-American model S-5 panel & moulding sander, b-b., m-d.
Curtis No. 51 hand block, ballbearing, motor driven.

SAWS

20" Northfield Band Saw, ballbearing, motor-driven.
Porter No. C-43-SL motor-driven cutoff, built-in 5 h.p. motor.
Heston & Anderson No. 5 cutoff saw, 1 h.p. motor.
Bell No. 12-B, double cutoff & miter saw, b. b., m-d.
Greenlee No. 495 tilting arbor, direct motor driven.
Ekstrom-Carlson No. 606 automatic cutoff, 7-1/2 h.p. motor (NEW).
Yates-American G-44, twin cut-off saw, direct motor-driven.

SHAPERS

Whitney No. 293 Automatic, ballbearing, motor driven.
Porter No. 105 single spindle, 2 h.p. motor at rear, b.b.
Whitney No. 134 and No. 239 double spindle, b.b., motor-driven.
Whitney No. 110 ballbearing motor driven single spindle.

TENONERS

Millbury single end, motor-driven, five heads.

VENEER EQUIPMENT

Dennis No. 2 veneer taping machine, motor-driven.
Handy No. 362 veneer press 7' long x 3' wide bed cap. 12 screws.

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Greenlee No. 356 direct motor-driven ball-bearing vertical single-spindle borer.
Greenlee 6 ft. No. 369 double column vertical gang borer.
Root "CH" 6 ft. vertical hydraulic feed boring machine.

JOINTERS

Diehl No. 60 direct motor-driven ball-bearing glue jointer.
Two Yates-American 6-in. No. 1 direct motor-driven ball-bearing Hand Jointers.
Porter 6-in. direct motor-driven ball-bearing Hand Jointer.

MOULDERS

Yates-American 10-in. C-89 electric moulder.
Yates-American 9-in. No. 35 electric moulder.
Vonnegut 6-in. electric moulder.
Newman 10-in. No. 412 electric moulder.
Mattison 10-in. No. 229 electric moulder.
Woods 4-in. No. 808M electric moulder.

PLANERS

Whitney 36-in. No. 29 direct motor-driven ball-bearing single planer.
Greenlee 30" No. 110 six-roll planer.
Buss 30-in. direct motor-driven ball-bearing single planer.
Newman 24-in. No. 8B ball-bearing planer.

SANDERS

Wysong & Miles 603 automatic stroke sander.
Yates-American 43-in. No. 431 direct motor-driven 3-drum endless-bed sander.
Yates-American 31-in. No. 413 direct motor-driven 2-drum endless-bed sander.
Two-motored drawer sander.
Mattison No. 124 automatic stroke sanders.
Three Lancaster drawer sanders.
Yates-American 43-in. type S-23 direct motor-driven roll feed sander.
Curtis 6 ft. DMD BB semi-automatic stroke sander.

SAWS

Yates Type F-25 variety saw.
Yates-American No. GG-3 direct motor-driven ball-bearing roller table double cut-off saw.
Yates-American G-44 straight line cut-off saw.

SHAPERS

Two Whitney No. 134 double-spindle electric ball-bearing shapers.
Greenlee 180B belted motor-driven high-speed ball-bearing shaper.
Whitney No. 234 electric double spindle shaper.
Whitney No. 282 single-spindle electric shaper.
Onsrud No. W125 automatic shaper.
Whitney latest Model No. 299 single spindle automatic shaper.

TENONERS

Greenlee No. 545 ball-bearing double-end tenoner.
American No. 1 single-end tenoner.
Wilkin-Challoner No. 620 electric panel sizer with copes.
Fay & Egan No. 505 electric single-end tenoner.
Mereen-Johnson practically new No. 300 panel sizer with copes.
Wilkin-Challoner No. 720 electric double end tenoner.

VENEER MACHINERY

Dennis Model 3 taping machine.
Francis 84-in. motor-driven double roll resinous glue spreader.
Taylor glue spreader for panel flow.
Black Bros. No. 116 electric cold press.

MISCELLANEOUS

Plycor continuous-feed lumber edge gluing machine.
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COMING EVENTS

Dec. 13-14: Annual meeting, National Oak Flooring Mfrs. Assn., Hotel Peabody, Memphis, Tenn.

Jan. 6-14, 1961: International Home Furnishings Market, the Merchandise Mart and the American Furniture Mart, Chicago, Ill.

Jan. 15-20: Winter market, Los Angeles Home Furnishing Mart, Los Angeles, Calif.

Jan. 15-20: Winter Home furnishings Market, Dallas, Tex.

Jan. 16-27: 16th Industrial Forestry Seminar, Yale University cooperating with Oregon State College at Corvallis, Ore.

Jan. 18-20: Annual meeting, Appalachian Hardwood Mfrs. Inc., Netherland Hilton Hotel, Cincinnati, Ohio.

Jan. 19-20 Annual meeting, Wood-Turners Service Bureau, Statler-Hilton Hotel, Boston, Mass.

Jan. 23-27: Winter market, Atlanta Merchandise Mart, Atlanta, Ga.

Jan. 23-27: Winter market, Western Merchandise Mart, San Francisco, Calif.

Jan. 16-30: 1961 Southern Furniture & Rug Market, Southern Furniture Exposition Bldg., High Point, N. C.

Jan. 30 - Feb. 4: 42nd short course in Dry Kiln Engineering and Wood Seasoning, State University of New York College of Forestry, Syracuse, N. Y.

Jan. 30 - Feb. 4: Wood Gluing short course, State University of New York College of Forestry, Syracuse, N. Y.

Feb. 9-10: Annual meeting, Wood Office Furniture Institute, Sedgefield Manor, High Point, N. C.

Feb. 22-23: Annual meeting, Northern Hardwood & Pine Mfrs. Assn., Northland Hotel, Green Bay, Wis.

Feb. 27 - Mar. 3: 4th annual cooperative Kiln Drying short course, Purdue University, Lafayette, Ind.

Apr. 7-9: 1961 Machinery Exposition, Southern Pine Assn., Municipal Auditorium, New Orleans, La.

WOOD PUZZLERS

This department is designed to help find answers to your production and sales problems. Let us know what information you need. Other readers may be able to help you.—*The Editors.*

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Please forward to the companies concerned our requests for more detailed information, literature or help as offered in the issue items circled below. We understand there is no obligation on our part for this service.

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Circle page number of ad(s) of interest
(fractional page ads identified by both page number and advertiser's initials)

2	27	70, 71	107	129CMC	144CHH
3	28	74	109	129PCI	144LFM
4	35	75	110PDM	129NBP	145
6	37	81	110PHC	131	146
8	38	83	111	133HCP	147WMM
11-12	40	85	112	133PWM	147NOM
13	41	86	113	133OSC	147DMC
14	42	89	114JIC	134	148
15	43	91	114SWS	135	149BC
16	44	93	115	136API	149OMW
17	51	96BBC	116	136MAG	149SKS
18	53	96JRD	117	137	150
19	57	97	118	138	151
20	59	98	119	139	152AC
21	60	99	120	140OC	152HMC
22	61-64	100	121	140API	152HGW
23	66UTC	101	125WMW	140KMC	165API
24	66JLG	102	125HPC	141	165HPC
25	67	103	125DCL	142	166
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Products and Literature Circle Item Numbers of Interest: P—Products; L—Catalogs, etc.	P1	P6	L1	L5
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December Board and Panel Products Progress Report Feature Article Listings
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December, 1960 Regular Feature Listings
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BP6	BP14	BP22	BP30
BP7	BP15	BP23	BP31
BP8	BP16	BP24	BP32
			BP33

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For his contributions to the advancement of the wood industry...

WOOD Salutes...

E. P. "PAT" IVORY

E. P. "PAT" IVORY, chairman of the board, Ivory Pine Co., Dinuba, Calif., is one of the wood field's leading exponents of all-out utilization, integration and automation. His mill is a living example. In addition to producing lumber, all "leftovers"—sawdust, shavings, chips and bark—are manufactured into useful products—poultry litter, cattle bedding, sweeping compound, roofing, fiber, fur cleaner, oil well drilling compounds, insect repellants and orchid bark, to name a few.

The result has been 99% utilization of every log that enters the mill. Also, since much of the timber processed by the mill is white fir—a species that had little market strength a few years ago —the example of what can be done has meant much to forest resource.

Pat Ivory's career in the wood industry was launched when he transferred as an undergraduate from Purdue to New York State College of Forestry at Syracuse. After earning his B.S. degree in 1916, he worked as a lumber inspector in Louisiana, then as a lumber wholesaler in New York City.

In 1920, he turned to lumber research at the U.S. Forest Products Laboratory in Madison, Wis., working on a project having to do with standardization of lumber grades and sizes. From this project came the American Lumber Standards.

Stints in advertising and trade promotion with the California White & Sugar Pine Assn. and as advertising manager with Weyerhaeuser Co. in St. Paul added more valuable experience, and in 1933 he formed his own company, operating first in Klamath Falls, Ore., then in Dinuba. Recently he ventured into the millwork business by acquiring a California plant.

"Imagineering" is a good word to describe the way in which he has run his business. While utilizing all parts of the log including the bark, the Ivory Pine mill operates on purchased electric power applied largely through the medium of hydraulic fluid. It has no steam plant, even for the kilns.

Even the physical plant evidences Pat's characteristic "imagineering." The interior is painted aspen green and all machines are bright yellow. There are no glass windows, but ample subdued lighting is provided through horizontal bands of aquamarine translucent glass fiber panels.

Lumber piling and handling several years ago were turned into a precision operation with vertical target lines marked on each side of sticker units to guide lift truck operators. Another revolutionary operation installed a few years ago involved a single edger control lever which, operating on electronic principles, performed nine separate functions with no more effort than it took to play a piano.

Pat Ivory's progressive approach to every problem has been reflected in the many activities he has undertaken outside of his business. For several years he served the Western Pine Assn. as chairman of the Committee on Grading. He has been an active member of the Forest Products Research Society for many years.

He also is or has been a member of the California State Board of Forestry, California Forest Products Laboratory, Society of American Foresters, and other industry groups.

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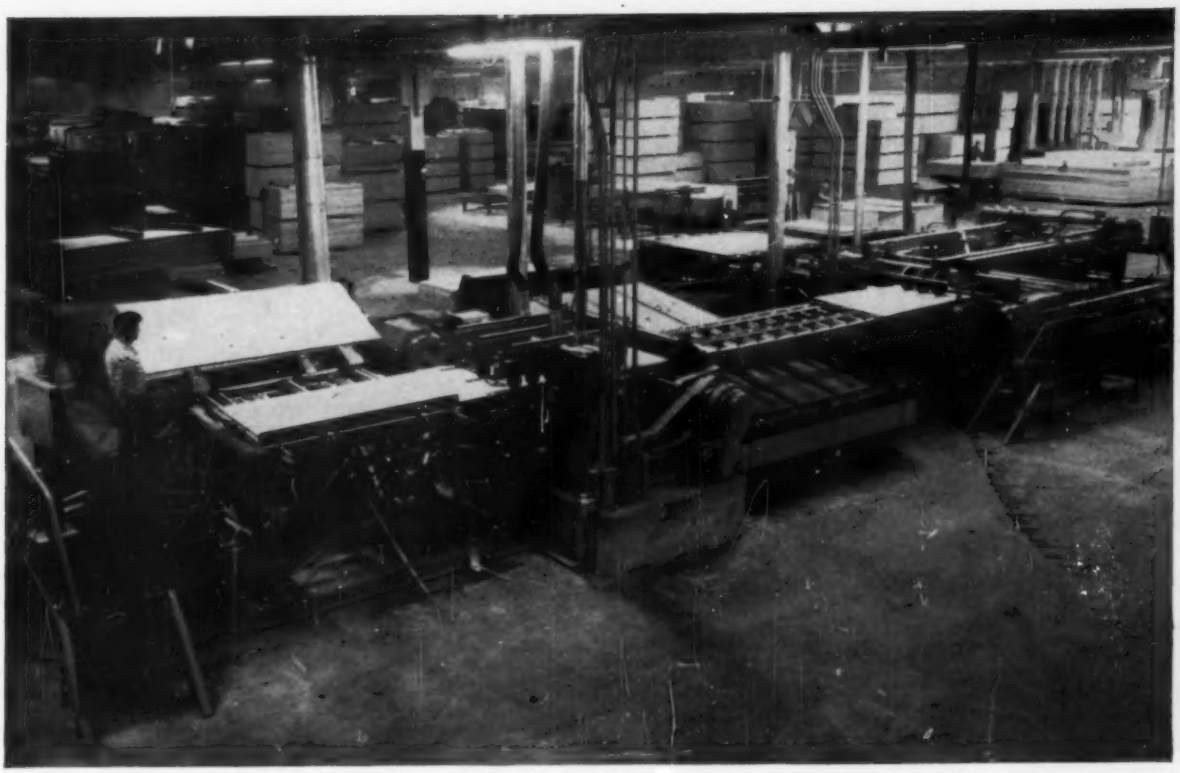

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